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OCS Report
MMS 86-0024

Oil & Gas Leasing/Production Program:

Annual Report/FY 1985

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1985



U.S. Department of the Interior
Minerals Management Service

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Oil & Gas Leasing/Production Program:

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Annual Report/FY 1985

This report is submitted to the Congress of the United States pursuant to sections 15(1) and 22(g) of the Outer Continental Shelf Lands Act Amendments of 1978 (Public Law 95-372).

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BUREAU OF LAND MANAGEMENT
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FACSIMILE NO. 202-219-6000

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EXECUTIVE SUMMARY

Pursuant to section 15(1) of the Outer Continental Shelf Lands Act (OCSLA), as amended (43 U.S.C. 1343(1)), this annual report on the Outer Continental Shelf (OCS) Oil and Gas Leasing and Production Program for Fiscal Year (FY) 1985 is herewith submitted to the Congress of the United States. The document summarizes the management, supervision, and enforcement activities of the Department of the Interior (DOI) on the OCS. It also details receipts from and expenditures for those activities and, in compliance with section 22(g) of the Act, also includes information on OCS safety violations as reported by the U.S. Coast Guard (USCG).

The OCSLA (43 U.S.C. 1331 et seq.), enacted in 1953 and as amended by the OCSLA Amendments of 1978 (43 U.S.C. 1801 et seq.), charges the Secretary of the Interior with the responsibility for administering mineral exploration and development, as well as for conserving the natural resources, of the submerged Federal lands and the waters of the OCS.

The Act, as amended, declares the national policy for the OCS and the major goals that derive from it. These goals for the comprehensive management of minerals production in the offshore marine environment include:

- ° ensuring orderly and timely exploration and development of mineral resources to meet the energy needs of the Nation;
- ° providing for optimal protection of the environment concurrent with efficient, economic mineral resource development; and
- ° providing that fair market value is received for the lands leased and the rights conveyed by the Federal Government.

Increasingly, as the Congress declares in the Act, the oil and gas production from the OCS constitutes an important part of the Nation's domestic energy supply. Within the DOI, that OCS program is administered by the Minerals Management Service (MMS). The DOI provides access to potential new sources of oil and gas offshore through the lease sales conducted by the MMS. Three such OCS sales were held during FY 1985, offering to industry more than 10,000 tracts covering 54.4 million acres in the Pacific area offshore the State of California and in the Gulf of Mexico.

Of the 10,067 tracts (54,352,583 acres) offered in the three OCS sales, leases were issued for 627 tracts (3,523,539 acres). Accepted high-bid bonuses amounted to \$1,500,674,668; another \$104,128,741 in bonuses was rejected as insufficient and returned to the bidders. Altogether, 839 bids were received for Sales 80, 98, and 102. Of these, 787 were successful; 52 were not.

Funds actually received during the Federal Government's fiscal year amounted to \$1,952,941,254 in bonuses and rentals and \$3,588,937,243 in royalties, for a total of \$5,541,878,497. In addition, \$857,172,770 was added to the escrow accounts, bringing total OCS program receipts to \$6,399,051,267. Obligations and expenditures for the Offshore Minerals Management program were estimated at \$98,807,430 in FY 1985.

Production of oil and gas on the OCS in FY 1985 amounted to 414 million barrels of crude oil and condensate and 4.4 trillion cubic feet of natural gas. Federal offshore oil production amounted to 12.7 percent of total U.S. oil production during FY 1985, while natural gas produced on the OCS was 25.3 percent of total U.S. production. All OCS production came from the Gulf of Mexico and offshore California. Industry started a total of 530 exploratory wells and 561 development wells on active leases during the fiscal year. The list below summarizes the number of active leases and the Federal offshore acreage under lease at the end of FY 1985:

<u>Offshore Region</u>	<u>Active Leases</u>	<u>Acres Under Lease</u>
Alaska OCS	714	3,902,626
Atlantic OCS	129	734,421
Gulf of Mexico OCS	4,272	20,892,714
Pacific OCS	<u>180</u>	<u>937,116</u>
Totals:	5,295	26,466,877

From the program's inception in October 1954 through September 30, 1985, the Department has held 89 OCS lease sales, including 2 reoffering sales. Of these, 84 were oil and gas lease sales, 2 were salt sales, and 3 were sulphur sales. Bonuses paid by industry for all leased Federal offshore tracts from 1954 through FY 1985 total \$52.6 billion and another \$27.6 billion has been received in royalties. During those 32 years, 7.0 billion barrels of crude oil and condensate and 69.9 trillion cubic feet of natural gas have been produced from these tracts.

During FY 1985, the USCG conducted 785 investigations on 1,917 reports or allegations of violations of safety regulations on OCS facilities. These investigations resulted in the issuance of 2,937 corrective action requirements and 18 Reports of Violations. Pursuant to 33 CFR Part 140.40, the USCG forwarded these Reports to the MMS for either administrative or judicial action.

SELECTED ABBREVIATIONS AND ACRONYMS

ANPR advance notice of proposed rulemaking

API American Petroleum Institute

ASME American Society of Mechanical Engineers

BAST best available and safest technologies

Bbbl billion barrels

BBOE billion barrels of oil equivalent

BLM Bureau of Land Management

CIDS concrete island drilling system

COPRDM [Interagency] Committee on Ocean Pollution Research, Development, and Monitoring

COST Continental Offshore Stratigraphic Test (see DST)

CZM Coastal Zone Management

CZMA Coastal Zone Management Act

DEIS draft environmental impact statement

DOI Department of the Interior

DST deep stratigraphic test

EA environmental assessment

EEZ Exclusive Economic Zone

EIR environmental impact report

EIS environmental impact statement

EPA Environmental Protection Agency

ESA Endangered Species Act

FEIS final environmental impact statement

FERC Federal Energy Regulatory Commission

FR Federal Register

FRRE field and reservoir reserves estimates

FWS Fish and Wildlife Service

G&G Geologic and Geophysical

ITM Information Transfer Meeting

Mcf thousand cubic feet

MER maximum efficient rate

MMC Marine Mammal Commission

Mmcf million cubic feet

MMS Minerals Management Service

MOU Memorandum of Understanding

NEPA National Environmental Policy Act

NMFS National Marine Fisheries Service

NOAA National Oceanic and Atmospheric Administration

NPDES National Pollutant Discharge Elimination System

NTL Notice to Lessees and Operators

OCS Outer Continental Shelf

OCSIP Outer Continental Shelf Information Program

OCSLA OCS Lands Act (of 1953)

OCSLAA OCS Lands Act Amendments of 1978

OIS Offshore inspection system

OSIM Office of Strategic and International Minerals

OSRA oil spill risk analysis

OSU Oregon State University

OTAC Operations Technology Assessment Committee

PINC potential incident of noncompliance

PRESTO probabilistic resource estimates offshore

PVP Platform Verification Program

RTWG Regional Technical Working Group

SMR Subcommittee on Marine Research

TA&R Technology Assessment and Research Program

Tcf trillion cubic feet

U.S.C. United States Code

USCG U.S. Coast Guard

USDC U.S. District Court

USGS U.S. Geological Survey

Table 1. SUMMARY OF OCS OIL AND GAS LEASE SALES HELD BY THE DOI DURING FY 1985

Lease Offering	Sale/ Bid Opening	Bid System of Leased Tracts	Tracts/ Lease Terms	High-Bid Bonuses*	OCS Leases Issued
Sale 80	10/17/84	16 2/3% for 5	19 at 5 yrs.	\$66,231,426 rec.	23 tracts
S. California	30 bids	tracts	4 at 10 yrs.	\$62,121,252 acc.	114,367 acres
657 tracts	25 tracts	12 1/2% for 18		\$4,110,174 rej.	\$543.17 avg./acre
3,147,352 acres	125,100 acres	tracts			\$343,101 rentals**
Sale 98	05/22/85	16 2/3% for 289	289 at 5 yrs.	\$1,147,434,447 rec.	409 tracts
Central GOM	644 bids	tracts	39 at 8 yrs.	\$1,079,377,760 acc.	2,076,943 acres
4,531 tracts	444 tracts	12 1/2% for 120	81 at 10 yrs.	\$68,056,687 rej.	\$519.69 avg./acre
24,006,157 acres	2,241,598 acres	tracts			\$6,230,829 rentals**
Sale 102	08/14/85	16 2/3% for 137	137 at 5 yrs.	\$391,137,536 rec.	195 tracts
Western GOM	265 bids	tracts	31 at 8 yrs.	\$359,175,656 acc.	1,075,199 acres
4,879 tracts	210 tracts	12 1/2% for 58	27 at 10 yrs.	\$31,961,880 rej.	\$334.05 avg./acre
27,199,074 acres	1,156,841 acres	tracts			\$3,225,597 rentals**
Total FY1985 OCS sales:	Total bids received:	Total tracts at 16 2/3% (1/6):	Total leases at 5 years:	Total bonuses received:	Total tracts leased:
3	939	466	445	\$1,604,803,409	627
Total tracts offered:	Total tracts bid:	Total tracts at 12 1/2% (1/8):	Total leases at 8 years:	Total bonuses accepted:	Total acres leased:
10,067	679	161	70	\$1,500,674,668	3,266,509
Total acres offered:	Total acres bid:		Total leases at 10 years:	Total bonuses rejected:	Total first-year rentals:
54,352,583	3,523,550		112	\$104,128,732	\$9,799,527

*After the bonuses are received, officials of the MMS appraise and review them. The accepted bids and bonuses are kept; the rejected bids and bonuses are returned to the bidders.

**First-year rentals are collected when the approved lease is issued by the Department of the Interior.

NOTE: Sale 89 (St. George Basin, Alaska), originally scheduled for September 1985, was placed on hold by the Department pending further investigations of industry interest.

I. LEASING AND OPERATIONAL ACTIVITIES

A. Fiscal Year 1985 OCS Oil and Gas Lease Sales

During FY 1985, the Department held three OCS lease sales and put a fourth on "hold." In these oil and gas sales, a total of 10,067 tracts on 54,352,583 acres was offered; industry countered with bids amounting to \$1,604,803,409 on 679 of the tracts. The accepted high-bid bonuses totaled \$1,500,674,668 for 627 tracts covering 3,266,509 acres. First-year rentals for those leases amounted to \$9,799,527. Statistical data for Sales 80, 98, and 102 may be found in Table 1.

Of the three FY 1985 sales, only Sale 102 was the subject of litigation. It was not enjoined, but the State of Texas sought to include Sale 102 in ongoing litigation against the DOI involving section 8(g) of the OCSLA, as amended. The State's "Motion to Amend" and the DOI's opposition to it, as defendants, are pending a ruling by the District Court.

Summary information on the four sales scheduled for FY 1985 is given below:

Sale 80, Southern California: Held in Los Angeles on October 17, 1984, this was the only offshore California sale not litigated in the past 5 years. Bids were received for only 25 tracts (125,100 acres) of the 657 tracts (3,147,352 acres) that were offered; however, 2 of the high bids (\$4,110,174) were rejected as insufficient. Leases were issued on the remaining 23 tracts (114,367 acres) for which bonus bids totaled \$62,121,252. The average accepted bid was \$543.17 per acre.

Sale 98, Central Gulf of Mexico: The forty-second sale in the Central Gulf offered 4,531 tracts (24,006,157 acres) for lease on May 22, 1985. The 74 companies participating in the lease sale submitted 644 bids on 444 tracts (2,241,598 acres). Of these, 35 bids (\$68,056,687) were rejected as insufficient. Leases were issued on 409 tracts (2,076,943 acres) yielding \$1,079,377,760 in bonus money and an average accepted bid of \$519.69 per acre.

Sale 102, Western Gulf of Mexico: Held in New Orleans, Louisiana, on August 14, 1985, this sale offered 4,879 tracts (27,199,074 acres). Bids were received on 210 tracts (1,156,841 acres). Of these, 15 bids (\$31,961,880) were rejected as insufficient. Leases were issued on 195 tracts (1,075,199 acres) for bonus payments totaling \$359,175,656. The average accepted bid was \$334.05 per acre.

Sale 89, St. George Basin: Originally scheduled for April 1985, then slipped twice, this sale has been put on "hold" because industry responses have indicated minimal interest. Sale 89 has been delayed until 1986, pending further investigation of industry interest in the area.

B. Preparation for Future Sales

The DOI continued during FY 1985 to work on details of the draft proposed new 5-Year Oil and Gas Leasing Program. According to procedures outlined in subsections (c) and (d) of section 18 of the OCS Lands Act Amendments of 1978, each

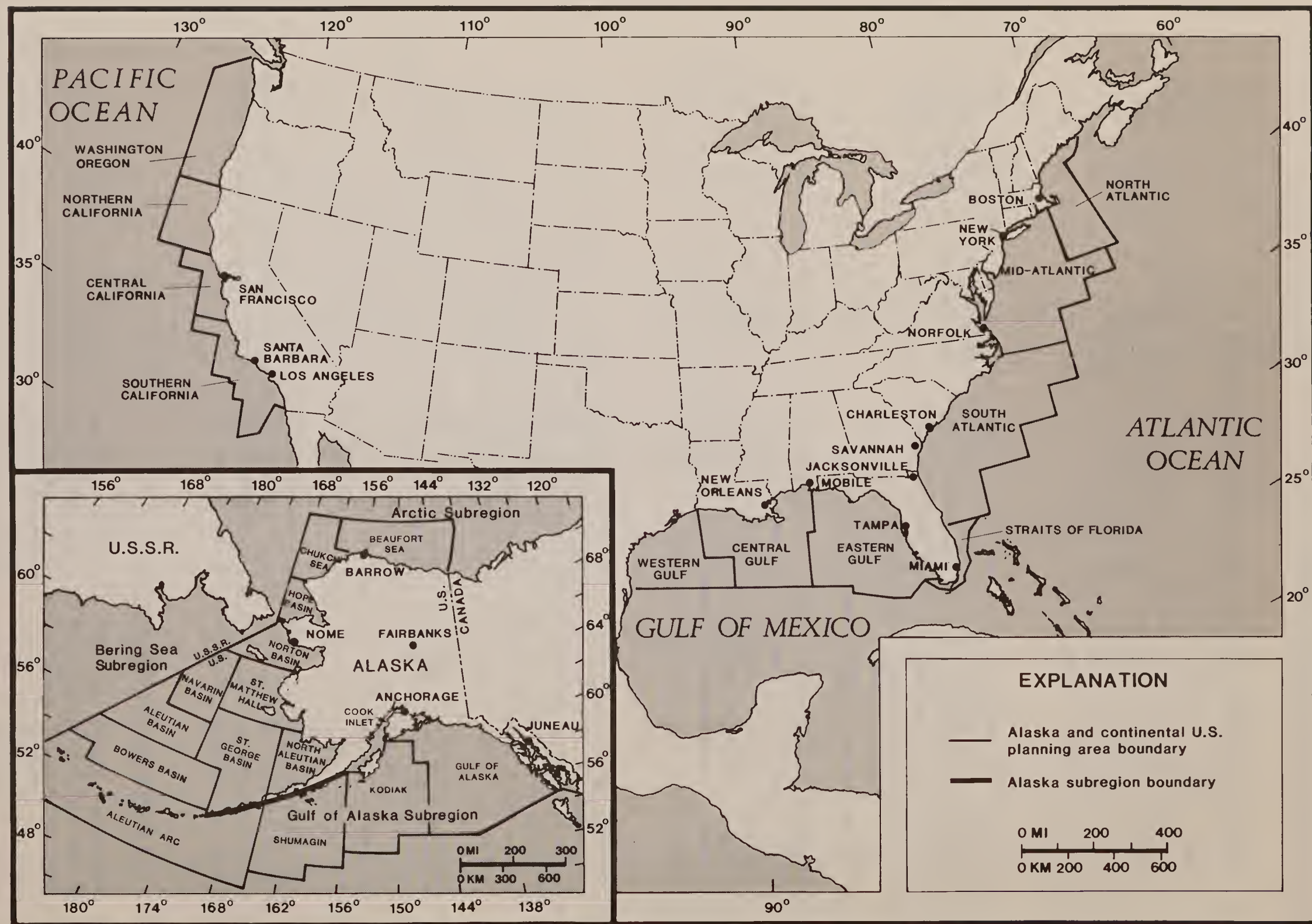


Figure 1. DRAFT PROPOSED OCS OIL AND GAS LEASING PROGRAM BY PLANNING AREAS, AS REVISED IN MARCH 1985.

new schedule should be approved and ready when a current program ends. See Figure 1 for proposed revisions to some current planning areas of the Alaska, California, and Florida OCS. Planning areas administered under the current 5-year program, as revised in July 1982, are mapped in Figure 2. Prelease work continued in FY 1985 on the remaining sales scheduled in that current leasing program as follows:

Sale 90, South Atlantic: Placed on hold February 19, 1985, this sale has been rescheduled for November 1986.

Sale 94, Eastern Gulf of Mexico: The Proposed Notice of Sale was published on August 12, 1985, in the Federal Register. A Final Notice of Sale was scheduled to be published in November 1985, and the sale was scheduled for December 18, 1985.

Sale 111, South Atlantic: Originally scheduled for October 1985, this sale was rescheduled for November 1986.

Sale 92, North Aleutian Basin: The Proposed Notice of Sale was published September 10, 1985.

Sale 100, Norton Basin: The Final Environmental Impact Statement (FEIS) is being prepared.

Sale 104, Central Gulf of Mexico: The Proposed Notice of Sale was scheduled for publication in December 1985.

Sale 105, Western Gulf of Mexico: The FEIS was scheduled for filing with the Environmental Protection Agency (EPA) in November 1985.

Sale 107, Navarin Basin: The Draft Environmental Impact Statement (DEIS) is being prepared.

Sale 97, Beaufort Sea: The DEIS is being prepared.

Sale 110, Central Gulf of Mexico: The DEIS is being prepared and is scheduled to be filed with the EPA in May 1986.

Sale 109, Chukchi Sea: The Area Identification was approved by the Assistant Secretary for Land and Minerals Management on May 28, 1985. The DEIS is being prepared.

Sale 86, Shumagin: The Call for Information and Nominations and the Notice of Intent to Prepare an EIS were scheduled for publication in November 1985. The Area Identification was scheduled for completion in February 1986.

Sale 91, Central and Northern California: After intensive negotiations during July 1985, the Secretary of the Interior and representatives from the California congressional delegation announced a preliminary agreement on 150 tracts that were to be considered for potential leasing in the Federal waters offshore the State of California. Subsequently, the Secretary held a number of "town meetings" in California. After this consultation with the public and an MMS analysis of the resource potential of the 150 tracts, the Secretary rejected the preliminary

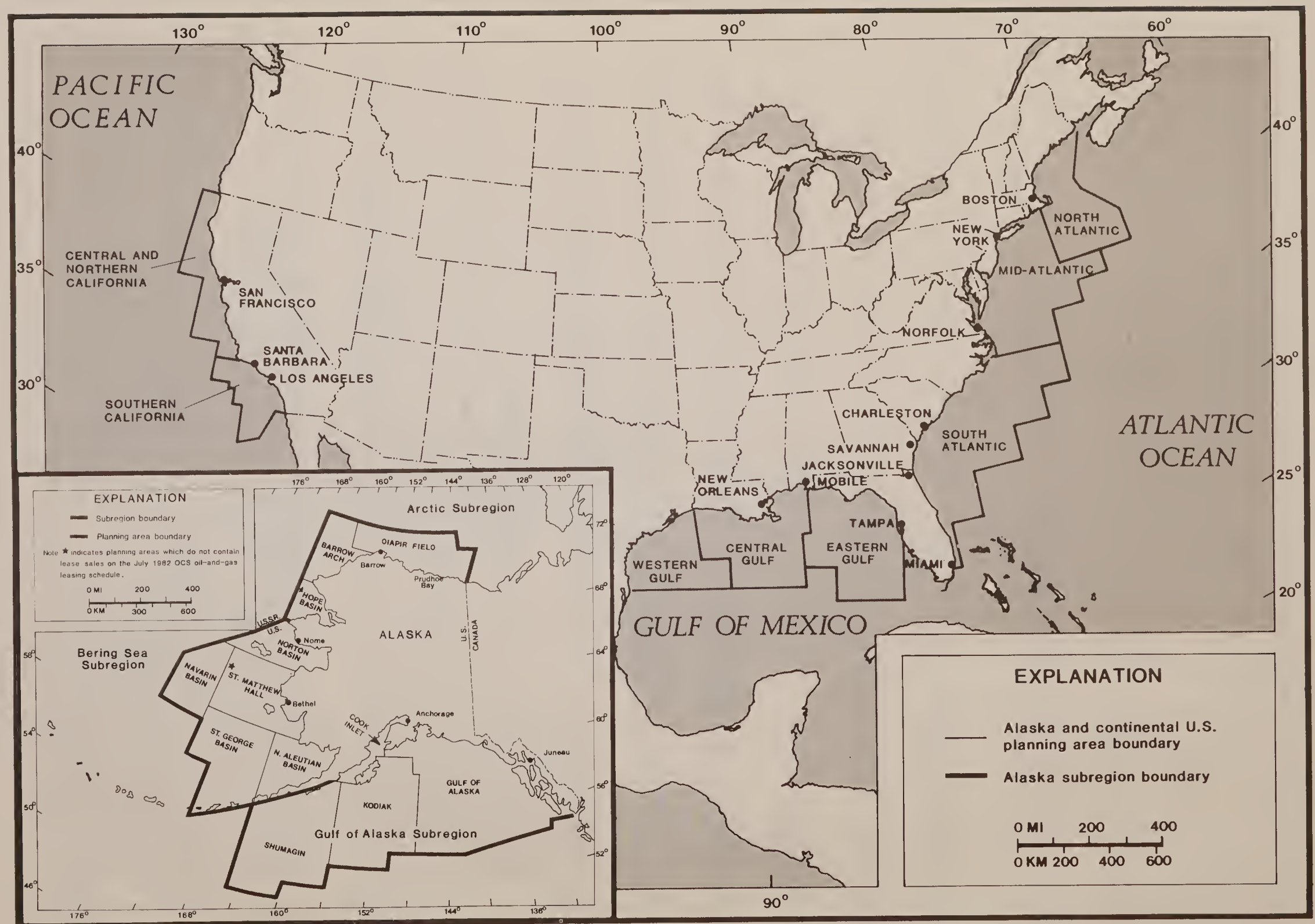


Figure 2. OCS PLANNING AREAS FOR CURRENT 5-YEAR OIL AND GAS LEASING PROGRAM, AS APPROVED IN JULY 1982.

agreement as not in the national interest. But the Department continued work on area identification in preparation for the Call for Information and Nominations document for this sale and Sale 95.

Sale 95, Southern California: As for Sale 91, the Secretary rejected the preliminary July agreement for this sale; however, work also continued on area identification for the Call for Information and Nominations document.

All the major action steps and documents completed by the MMS in FY 1985 for the prelease phases of the OCS leasing process are summarized below:

<u>FY 1985</u> <u>Activity/Document</u>	<u>Number</u> <u>Completed</u>
Call for Information	2
Area Identification	3
Draft Environmental Impact Statement	3
Public Hearings	21
Final Environmental Impact Statement	1
Proposed Notice of Sale	5
Secretarial Issue Document	5
Final Notice of Sale	2
Sale Conducted	3

The DOI also completed and sent forward the following documents in FY 1985:

	<u>Section 19</u> <u>Letters</u>	<u>Section 8(g)</u> <u>Letters</u>	<u>Balancing</u> <u>Letters</u>
Sale 89	1	1	0
Sale 92	1	0	0
Sale 94	2	2	0
Sale 98	3	3	3
Sale 102	2	2	2
Totals:	9	8	5

C. Administration of OCS Leases

Lease activity administered by the MMS during FY 1985 is summarized in Table 2. The Agency processed 1,915 assignments of interest in OCS leases, 101 lease relinquishments, 35 lease terminations, and 64 lease expirations. The MMS also approved 376 pipeline lease-term applications covering 347 miles, 75 pipeline right-of-way applications covering 440 miles, 214 platform applications, 708 exploration plans, and 249 development and production plans. Well starts on the OCS totaled 1,091 during the same period; and 422 wells were plugged and abandoned (P & A).

D. Exploration Activities

Both the prelease permitting and postlease operations are indicative of the general level of industry's exploration activities; both declined overall in Federal offshore waters during FY 1985. For prelease resource appraisals, the

MMS issued only 412 geologic and geophysical (G&G) permits, down 18.4 percent from the previous year. Moreover, as in FY 1984, no Continental Offshore Stratigraphic Test (COST) wells were drilled. The MMS postlease management included approval and issuance of 708 exploration plans, down 12 percent from FY 1984. In FY 1985, OCS operators drilled 530 exploratory wells, down 14 percent from the previous year.

Table 2. ADMINISTRATION OF OCS OIL AND GAS LEASES DURING FY 1985

	<u>Alaska</u>	<u>Atlantic</u>	<u>Gulf of Mexico</u>	<u>Pacific</u>	<u>FY 1985 Totals</u>
<u>Processing of Leases:</u>					
Assignments of Interest	167	105	1,565	78	1,915
Relinquishments	4	66	31	0	101
Terminations	0	0	35	0	35
Expirations	0	23	38	3	64
<u>Pipeline Approvals:</u>					
Lease-Term Applications Approved	0	0	375	1	376
Right-of-Way Applications Approved	0	0	72	3	75
Lease-Term Mileage Approved	0	0	342	5	347
Right-of-Way Mileage Approved	0	0	440	0	440
<u>OCS Production Platforms:</u>					
Applications Approved	0	0	214	N/A	214
Under Supervision as of 09/30/85	0	0	3,337	18	3,355
<u>Postlease Plans Approved:</u>					
Exploration Plans	8	0	694	6	708
Development/Production Plans	0	0	243	6	249
<u>Well Drilling Actions:</u>					
Exploratory Wells Started	22	0	498	10	530
Development Wells Started	0	0	522	39	561
Total Well-Starts:	22	0	1,020	49	1,091
Wells Plugged and Abandoned	17	1	373	31	422

The MMS-monitored G&G activities include core and test drilling and bottom-sampling operations aimed at acquiring geological data on mineral resource potential, and the gravity, magnetic, and seismic operations aimed at gathering geophysical data. All such data help both Government and industry to identify areas thought to have hydrocarbon potential. These G&G activities also help provide early alerts on potentially hazardous drilling areas. Of the 412 G&G permits that MMS approved and issued, 300 were for the Gulf of Mexico, 63 were for offshore Alaska, and 49 were for the Pacific. None were issued for the Atlantic. (All G&G permits are issued on a calendar year basis to accommodate industry scheduling.) The MMS acquired 71,318 line miles of geophysical data

in the four regions during the fiscal year:

<u>Region</u>	<u>Data Line Miles</u>	<u>Number of G&G Permits</u>
Alaska OCS	30,270	63
Atlantic OCS	1,437	0
Pacific OCS	8,181	49
Gulf of Mexico OCS	<u>31,430</u>	<u>300</u>
Totals:	71,318	412

Analyses of these data are major factors in resource evaluation efforts for all OCS lease sales. After the geophysicists complete their seismic interpretations, the data are used to prepare subsurface structure maps by region for the identification of hydrocarbon prospects within a given planning area. As the sale process advances, the MMS prepares detailed maps for each prospect. These structure maps form the core of each lease sale tract evaluation effort. Together with geological, engineering, and economic data and information, they are the basic criteria used to support the bid adequacy determinations that the Department makes when reviewing the high-bid bonuses for each lease sale.

COST wells, officially designated deep stratigraphic tests (DST), are essential but costly exploratory investigations. They are therefore usually drilled on a cost-sharing basis by consortiums. Each such consortium generally includes many companies. Both the engineering and geological data so collected are vital to their determinations of hydrocarbon potential and drilling hazards. No new COST wells were started during FY 1985 since unsettled economic conditions continued to slow up exploration. Nevertheless, some exploration was already in work or planned for the Alaska, Gulf of Mexico, and Pacific OCS.

The Gulf of Mexico OCS operations continued to dominate both prelease and post-lease activities, but the 22 exploratory well starts in the Alaska OCS were double the previous year's. Exploration activities for the OCS in FY 1985 are shown in Table 3.

Overall, postlease exploration activity decreased on the Federal OCS in FY 1985. The 725 exploration plans submitted were 100 fewer than in the previous year. But, even with only 530 exploratory well starts in FY 1985 as compared to 627 in FY 1984, there was record activity offshore Alaska, in both the Beaufort and Bering Seas.

In the Atlantic OCS Region, no new exploratory wells were started, and the one that started in FY 1984 was plugged and abandoned in November 1984 (FY 1985). So far, 46 wells have been drilled in the Federal waters of the Atlantic OCS, but there have been no commercial finds of hydrocarbons. As of September 30, 1985, no exploratory drilling permits had been submitted by operators for FY 1986 work.

In the Pacific OCS Region, the pace of exploratory drilling declined significantly. During FY 1985, only 10 exploratory wells were started, versus the 32 begun the previous year. However, operators turned their attention to developing prior discoveries in the Point Arguello, Santa Barbara Channel, and Point Sal areas.

Table 3. EXPLORATION ACTIVITIES ON OCS OIL AND GAS LEASES, FY 1985

	<u>Alaska</u>	<u>Atlantic</u>	<u>Gulf of Mexico</u>	<u>Pacific</u>	<u>FY 1985 Totals</u>
G&G Permits Issued	63	0	300	49	412
COST Well Starts	0	0	0	0	0
<u>Exploration Plans:</u>					
Submitted	9	0	711	5	725
Approved	8	0	694	6	708*
Disapproved	0	0	0	0	0
Pending	1	0	60	0	61
Exploratory Well Starts	22	0	498	10	530

*Some of the plans approved in FY 1985 had been submitted in FY 1984.

In separate actions, the California Coastal Commission voted in FY 1985 to object to consistency certification on two OCS projects. They were the Gulf Oil Corporation (now Chevron) Plan of Exploration for Sale 73, Lease OCS-P 0505; and the Cities Service Oil and Gas Corporation's Development and Production Plan for Lease OCS-P 0409. Both companies have appealed the decisions to the Secretary of Commerce and decisions were pending at the end of the fiscal year.

The 22 exploratory wells started during FY 1985 bring the total number drilled in the Federal waters offshore Alaska to 61. These were the well starts in each Alaska OCS planning area:

Lower Cook Inlet/Shelikof Straits	2
Beaufort Sea/Diapor Field	5
Bering Sea:	
St. George Basin	5
Norton Sound Basin	3
Navarin Basin	7
Total Well Starts:	<u>22</u>

While offshore drilling was continued in three familiar areas (St. George and Norton Basins and Lower Cook Inlet), it was also started in the Diapor Field (Sale 83) and in the Navarin Basin/Bering Sea (Sale 87) under exploration plans approved during FY 1985. As of September 30, 1985, three wells have been completed and four others had been started in the Navarin Basin. Amoco Production, Exxon U.S.A., and ARCO Alaska were all drilling there, but no discoveries had been announced in these new areas. The 1984 Seal Island discovery in State waters is still the only commercial find of oil in the region.

Union Oil of California introduced the first floating drilling system north of the Arctic Circle when it operated Canmar's Explorer II drillship to begin the first of three test wells in Sale 87. In another technological first, Exxon

U.S.A., used a mobile gravity structure, Global Marine's Concrete Island Drilling System (CIDS) to successfully drill two wells in the Sale 71 area in the Alaskan Beaufort Sea. The CIDS is a reusable, bottom-founded, concrete and steel caisson structure which can be used to drill in water depths to 55 feet. No discoveries have been announced from this operation.

In the Gulf of Mexico, operators remained interested in deepwater exploration drilling--that is, operations in water depths of 600 feet and greater. In FY 1985, 74 exploratory well starts in deep water resulted in 22 announced oil and gas discoveries. Altogether, 90 oil and gas discoveries were announced in the Gulf of Mexico OCS Region during this period. Nevertheless, Gulf operators submitted only 711 exploration plans in FY 1985, down 88 from FY 1984. During the same period, 498 exploratory wells were started, down 83 from the previous year.

E. Development/Production Activities

Offshore oil and gas development and production in the United States both continued to be limited to the Gulf of Mexico and Pacific OCS Regions. Table 4 summarizes offshore development/production activities in FY 1985.

The 39 well starts in the Pacific OCS Region were up 2 from FY 1984. Two additional platforms, Harvest and Irene, were also installed in the Pacific OCS during FY 1985. Platform Harvest will develop parts of the Point Arguello field while Irene will develop parts of the Point Pedernales field. Both fields are in the Santa Maria Basin. Three additional platforms (Hermosa, Hidalgo, and Julius) are slated for installation in that area during FY 1986. All told, there were 18 platforms in the Pacific OCS Region at the end of FY 1985. Moreover, development activities are expected to increase significantly since at least nine more platforms are scheduled for installation by 1990. Two of the proposed platforms, Harmony and Heritage, are particularly noteworthy. To be set in the Santa Barbara Channel in 1988 and 1989, respectively, they are massive, single-piece, conventional, steel structures. Harmony will weigh 42,880 tons and slightly smaller Heritage will weigh 35,370 tons. Platform Harmony will be located in 1,207 feet of water while Platform Heritage will be set in 1,004 feet. As a comparison, Platform Hondo located in 850 feet is in the deepest water of any platform currently set on the Pacific OCS. Platform Cognac, located in 1,024 feet of water in the Gulf of Mexico, currently holds the world water-depth record for fixed production platforms.

In the Gulf of Mexico OCS Region, 522 development wells were started in FY 1985, as compared to 621 the previous year. Nevertheless, the oil and gas industry intensified their study of various deepwater development options. Water depths of recent deepwater discoveries in the Green Canyon and Mississippi Canyon areas of the central Gulf of Mexico range from 600 to 1,810 feet. New production technologies being considered for Gulf of Mexico discoveries include:

- ° tension-leg platform to develop an oil field in 1,530 feet of water;
- ° floating production system for use in 1,500 to 2,200 feet of water; and
- ° subsea completion system to develop a gas find in 1,500 feet of water--a record depth for such a system in the United States.

Table 4. DEVELOPMENT/PRODUCTION ON OCS OIL AND GAS LEASES, FY 1985

	<u>Alaska</u>	<u>Atlantic</u>	<u>Gulf of Mexico</u>	<u>Pacific</u>	<u>FY 1985 Totals</u>
<u>Development/Production:</u>					
Submitted	0	0	260	3	263
Approved	0	0	243	6	249*
Disapproved	0	0	0	0	0
Pending	0	0	41	1	42
Development Well Starts	0	0	522	39	561
<u>Production Platforms:</u>					
Total in FY 1984	0	0	3,187	16	3,203
Added	0	0	224	2	226
Removed	0	0	74	0	74
Total as of 09/30/85	0	0	3,337	18	3,355
<u>Platform Maximums:</u>					
Water Depth	N/A	N/A	1,024	850	N/A
Distance from Shore	N/A	N/A	145	11	N/A
Pipelines Added	0	0	375	1	376
Pipeline Miles Added	0	0	747	5	752
Total Pipeline Miles	0	0	15,891	110	16,001

*Some of the plans approved during FY 1985 had been submitted during FY 1984.

NOTE: The maximum depth of the offshore waters in which production platforms are now located is given in feet; and the maximum distance from shore is given in miles. These statistics are not applicable (N/A) to either the Alaska or Atlantic OCS regions since neither has production currently.

In FY 1985, the Gulf of Mexico OCS regional office had already received development and production permit applications for a tension-leg platform and for a massive, rigid platform. As reported last year, this Platform Bullwinkle will be installed in about 1,350 feet of water and weigh 78,000 tons. It will not only be the world's largest single-piece, steel platform, but it will also be set beyond Cognac's world water-depth record of 1,024 feet. The maximum depth limit for conventional bottom-founded platforms is currently considered to be approximately 1,500 feet. The tension-leg platform will be set in about 1,800 feet of water. Future reports will update the progress of these new production technologies.

F. Reserve Inventory

The MMS concerns itself both with reserves of known hydrocarbon deposits and with potentially recoverable, undiscovered resources in its administration of the OCS Oil and Gas Program. This includes the Reserve Inventory Program initiated in FY 1977 to establish and maintain accurate and up-to-date estimates of Federal offshore oil and gas reserves in new and developed fields. The program was subsequently mandated in section 606(d)(2) of the OCSLA Amendments of 1978 (43 U.S.C. 1865).

Reserve inventories are generated in the MMS regional offices from well data supplied by leasehold operators. These inventories are tabulated by individual fields and by reservoirs and then evaluated. To accommodate the detailed information analyses required, the MMS has developed a computerized storage and retrieval system known as the Field and Reservoir Reserves Estimates (FRRE). This system also supplies updated estimates of reserves that are separately published as an annual news release. Moreover, ongoing map work and information from field and reservoir analyses directly support the MMS supervision of field and reservoir development. That includes such functions as production rate control, approval of drilling permits, unitization of tracts, and geological and engineering analyses for future lease sale evaluation.

The Reserve Inventory Program serves two purposes: (1) to determine the reserves of new field discoveries, and (2) to update discovered, previously inventoried reserves as new geologic, engineering, and production data are collected. As of January 1, 1985, the total estimated recoverable reserves in Federal waters amounted to 4.9 billion barrels of crude oil and 46.7 trillion cubic feet of natural gas.

During FY 1985, 36 fields were evaluated in the Gulf of Mexico and Pacific OCS Regions. For the decade ending September 30, 1985, a total of 471 fields had been evaluated in those regions. It is calculated that another 44 fields will be evaluated in FY 1986.

G. Demonstrated Reserves and Estimated Undiscovered, Economically Recoverable Resources

Tables 5 and 6 summarize the quantities of oil and gas that may be inferred or estimated to exist in offshore areas under Federal jurisdiction; these are presented as either demonstrated reserves or undiscovered, economically recoverable resources. Reserves are those portions of an identified oil or gas resource that have already been discovered and can be economically extracted using current technology and under present economic conditions. Undiscovered, economically recoverable resources are those hydrocarbon deposits estimated to exist outside of known fields and, potentially, in commercial quantities.

Table 5 lists the undiscovered resource estimates for 22 of the 26 planning areas of the 4 OCS regions. Four planning areas (Aleutian Arc, Aleutian Basin, Bowers Basin, and St. Matthew-Hall) are considered to contain negligible quantities of economically recoverable hydrocarbons and are not listed in the table. In two others (the Chukchi Sea and the Beaufort Sea), a 200-foot water

Table 5. ESTIMATES OF UNDISCOVERED, ECONOMICALLY RECOVERABLE OIL
AND GAS RESOURCES IN 22 PLANNING AREAS OF 4 OCS REGIONS

	Marg. Prob. of H*	Conditional Mean		Risked Mean		
		Oil in Bbbl	Gas in Tcf	Oil in Bbbl	Gas in Tcf	Total in BBOE
ALASKA OCS REGION:						
<u>Gulf of Alaska</u>						
Leased & Unleased	0.08	0.54	8.34	0.04	0.66	0.16
Unleased	0.08	0.49	8.00	0.04	0.64	0.15
Leased	0.05	0.10	0.40	0.01	0.02	0.01
<u>Cook Inlet</u>						
Leased & Unleased	0.03	0.21	0.35	0.01	0.01	0.01
Unleased	0.03	0.18	0.32	0.01	0.01	0.01
Leased	0.01	0.06	0.09	neg.	neg.	neg.
<u>Kodiak</u>						
Leased & Unleased	0.05	0.15	2.92	0.01	0.13	0.03
Unleased	0.05	0.15	2.92	0.01	0.13	0.03
Leased	0	0	0	0	0	0
<u>North Aleutian</u>						
Leased & Unleased	0.20	0.36	2.62	0.08	0.54	0.17
Unleased	0.20	0.36	2.62	0.08	0.54	0.17
Leased	0	0	0	0	0	0
<u>Shumagin</u>						
Leased & Unleased	0.03	0.05	1.42	neg.	0.04	0.01
Unleased	0.03	0.05	1.42	neg.	0.04	0.01
Leased	0	0	0	0	0	0
<u>St. George Basin</u>						
Leased & Unleased	0.22	1.69	15.76	0.37	3.47	0.99
Unleased	0.22	1.12	9.24	0.25	2.03	0.61
Leased	0.22	0.57	6.60	0.13	1.45	0.38
<u>Navarin Basin</u>						
Leased & Unleased	0.27	4.80	5.84	1.30	1.58	1.58
Unleased	0.27	3.28	4.26	0.89	1.15	1.09
Leased	0.27	1.51	1.59	0.41	0.43	0.48
<u>Norton Basin</u>						
Leased & Unleased	0.15	0.64	2.94	0.09	0.43	0.17
Unleased	0.12	0.28	1.55	0.03	0.18	0.07
Leased	0.13	0.47	1.81	0.06	0.24	0.11
<u>Hope Basin</u>						
Leased & Unleased	0.02	0.17	1.81	neg.	0.04	0.01
Unleased	0.02	0.17	1.81	neg.	0.04	0.01
Leased	0	0	0	0	0	0
<u>Chukchi Sea</u>						
Leased & Unleased	0.20	2.68	15.10	0.54	3.02	1.07
Unleased	0.20	2.68	15.10	0.54	3.02	1.07
Leased	0	0	0	0	0	0
<u>Beaufort Sea</u>						
Leased & Unleased	0.70	1.28	5.62	0.89	3.93	1.59
Unleased	0.70	1.18	5.61	0.83	3.93	1.53
Leased	0.35	0.07	0.45	0.02	0.16	0.05

* Marginal probability of hydrocarbons (H), given here as a decimal fraction of 1.0 as the known case, expresses the chance of their occurrence in commercial volumes.

NOTES: Estimates by the MMS as of July 1984: oil in billions of barrels (Bbbl), gas in trillions of cubic feet (Tcf), risky mean total in billions of barrels of oil equivalent (BBOE). The conversion is based on a factor of 5.62 Tcf/BBOE.

Negligible (neg.) quantities are given wherever reliable data indicates little or no concentration of usable, extractable hydrocarbons under present economic conditions and using present technology.

Table 5 (continued). ESTIMATES OF UNDISCOVERED, ECONOMICALLY RECOVERABLE OIL AND GAS RESOURCES IN 22 PLANNING AREAS OF 4 OCS REGIONS

	Marg. Prob. of H*	Conditional Mean		Risked Mean		
		Oil in Bbbl	Gas in Tcf	Oil in Bbbl	Gas in Tcf	Total in BBOE
ATLANTIC OCS REGION:						
<u>North Atlantic</u>						
Leased & Unleased	0.30	0.35	7.14	0.11	2.14	0.49
Unleased	0.30	0.35	7.07	0.11	2.12	0.48
Leased	0.08	0.01	0.13	neg.	0.01	neg.
<u>Mid-Atlantic</u>						
Leased & Unleased	1.00	0.35	6.02	0.35	6.02	1.43
Unleased	1.00	0.23	4.01	0.23	4.01	0.94
Leased	0.81	0.16	2.42	0.13	1.96	0.48
<u>South Atlantic</u>						
Leased & Unleased	0.25	0.86	16.18	0.22	4.04	0.94
Unleased	0.25	0.82	15.45	0.20	3.86	0.89
Leased	0.25	0.04	0.62	0.01	0.16	0.04
<u>Florida Straits</u>						
Leased & Unleased	0.11	0.04	1.04	neg.	0.11	0.02
Unleased	0.11	0.04	1.04	neg.	0.11	0.02
Leased	0	0	0	0	0	0
GULF OF MEXICO OCS REGION:						
<u>Eastern Gulf</u>						
Leased & Unleased	1.00	0.41	2.19	0.41	2.19	0.80
Unleased	0.99	0.36	1.63	0.35	1.62	0.64
Leased	0.97	0.06	0.43	0.06	0.42	0.13
<u>Central Gulf</u>						
Leased & Unleased	1.00	3.72	30.69	3.72	30.69	9.18
Unleased	1.00	2.66	20.64	2.66	20.64	6.33
Leased	1.00	0.82	7.54	0.82	7.54	2.16
<u>Western Gulf</u>						
Leased & Unleased	1.00	1.90	26.76	1.90	26.76	6.66
Unleased	1.00	1.83	25.25	1.83	25.25	6.32
Leased	1.00	0.09	1.65	0.09	1.65	0.38
PACIFIC OCS REGION:						
<u>Oregon/Washington</u>						
Leased & Unleased	0.20	0.18	3.26	0.04	0.65	0.15
Unleased	0.20	0.18	3.26	0.04	0.65	0.15
Leased	0	0	0	0	0	0
<u>Northern California</u>						
Leased & Unleased	0.60	0.42	1.86	0.25	1.12	0.45
Unleased	0.60	0.42	1.86	0.25	1.12	0.45
Leased	0	0	0	0	0	0
<u>Central California</u>						
Leased & Unleased	0.65	0.56	0.79	0.36	0.51	0.46
Unleased	0.65	0.56	0.79	0.36	0.51	0.46
Leased	0	0	0	0	0	0
<u>Southern California</u>						
Leased & Unleased	1.00	1.54	2.42	1.54	2.42	1.97
Unleased	1.00	1.22	1.92	1.22	1.92	1.56
Leased	1.00	0.32	0.53	0.32	0.53	0.41

* Marginal probability of hydrocarbons (H), given here as a decimal fraction of 1.0 as the known case, expresses the chance of their occurrence in commercial volumes.

NOTE: The proposed, separate Northern California and Central California planning areas were formerly known as the single Northern and Central California area.

depth is considered the limit for current and foreseeable development and production. Thus, based on current and projected cost/price relationships, the conditional mean gas resources estimated to exist in those areas are considered to be noneconomic. The estimates show the average quantities of economically recoverable, undiscovered oil and gas estimated to be present if the given planning area contains a commercial accumulation of hydrocarbons (see map in Figure 1 of this report). These updated estimates (as of July 1984) were published in the spring of 1985 by the MMS in OCS Report MMS 85-0012. They were developed with a computer-based mathematical model called Probabilistic Resource Estimates Offshore (PRESTO). In this model, the MMS specialists use a prospect-specific database developed from regional interpretations of seismic, geologic, engineering, and economic information. PRESTO provides a range of resource estimates with a corresponding estimate of the probability of occurrence. This methodology differs from the approach formerly used for similar assessments by the U.S. Geological Survey, as described in USGS Circulars 725 and 860.

As can be seen in the Table 5 calculations, the marginal probability of hydrocarbons, expressed as a decimal fraction, is the chance that commercial volumes exist in a planning area. In the case that hydrocarbons are already known to exist, the marginal probability is expressed as 1.0 for that certainty. However, commercial accumulations of hydrocarbons are not known to exist in the majority of these planning areas. Thus, the risked mean estimates incorporate the degree of uncertainty surrounding the existence of hydrocarbons.

Risked mean total oil and gas is calculated in billions of barrels of oil equivalent and is the sum of the risked mean oil resources as billions of barrels and the risked mean gas resources converted from trillions of cubic feet to billions of barrels of oil equivalent. The conversion is based on an energy equivalence factor of 5.62 TcfG/BBOE. This estimate is sometimes useful when making relative comparisons among areas.

Table 6 lists the original reserves, cumulative production, and estimated remaining OCS reserves as of December 31, 1984. These estimates appeared in OCS Report MMS 85-0041 for the Southern California OCS Region and in OCS Report MMS 85-0039 for the Gulf of Mexico Region. Both reports were published in 1985 and are available from the respective MMS regional offices.

Table 6. ESTIMATES OF ORIGINAL AND REMAINING OIL AND GAS RESERVES IN NEW AND DEVELOPED OCS FIELDS, AS OF DECEMBER 31, 1984

	Original Reserves		Cumulative Production		Remaining Reserves	
	Oil in	Gas in	Oil in	Gas in	Oil in	Gas in
	Bbbl	Tcf	Bbbl	Tcf	Bbbl	Tcf
Southern California	1.52	2.40	.31	.20	1.21	2.20
Gulf of Mexico	9.91	111.60	6.24	67.10	3.67	44.50

NOTE: Crude oil is given here in billions of barrels (Bbbl) at 60° Fahrenheit, 14.696 psia; and natural gas in trillions of cubic feet (Tcf) at 60° Fahrenheit, 15.025 psia.

H. Production Activities

Oil and gas production continued to be limited to leases in the Federal OCS regions of the Gulf of Mexico and the Southern California offshore. In FY 1985, production from these areas represented 12.7 percent and 25.3 percent of total U.S. oil and gas production, respectively. Table 7 breaks out oil and gas volumes from the 6,923 producing wells in Federal waters. As before, there was no production from either the Alaska or Atlantic OCS regions.

Table 7. OIL AND GAS PRODUCTION FROM OFFSHORE FEDERAL LEASES, FY 1985

	<u>Alaska</u>	<u>Atlantic</u>	<u>Gulf of Mexico</u>	<u>Pacific</u>	<u>FY 1985 Totals</u>
Crude Oil (Mbb1)	0	0	341,472	32,302	373,774
Condensate (Mbb1)	0	0	39,832	0	39,832
Gas-Well Gas (Mmcf)	0	0	3,804,418	22,403	3,826,821
Oil-Well Gas (Mmcf)	0	0	568,476	25,983	594,459
<u>Producing Wells:</u>					
Oil Wells	0	0	3,667	338	4,005
Gas Wells	0	0	2,896	22	2,918

Notes: Crude oil and condensate are here reported in thousands of barrels (Mbb1) and gas-well gas and oil-well (casinghead) gas in millions of cubic feet (Mmcf).

The revenues from this reported production may be found under "Receipts: Accounts 142020 and 14X6707" in section IV of this report.

Overall, offshore production of crude oil and condensate increased by 13.2 percent from that reported in FY 1984 while production of natural gas, including gas-well gas and casinghead gas, increased by 2.6 percent.

Oil and condensate production in the Gulf of Mexico OCS Region increased by 13.7 percent while production in the Pacific OCS Region increased by 6.9 percent. Natural gas production from the Gulf of Mexico OCS Region increased by 2.2 percent. The Pacific OCS Region registered an increase of 59.0 percent in gas production over FY 1984 as more gas wells from the region's Pitas Point area came on stream.

As of September 30, 1985, the 6,563 producing wells in the submerged Federal lands of the Gulf of Mexico included 3,667 oil wells and 2,896 gas wells. The 360 producing wells in the Pacific OCS Region included 338 oil wells and 22 gas wells.

I. Shut-in Wells in Federal Waters

As the DOI has reported annually since 1972, shut-in oil and gas wells in Federal waters are those well [completions] "not actually producing that year but which [are] not permanently plugged with cement and abandoned." Both in the Gulf of Mexico and the Pacific OCS, shut-ins are those well completions within a wellbore that are not P&A but have zero production for the period being reported.

1. Well Completions within the Wellbore

The drilled or bored shaft sunk into the earth to make an oil or gas well is called the wellbore (Figure 3). As drilling progresses toward presumed hydrocarbon formations; the operators run tests at intervals in order to evaluate potentially productive oil and gas reservoirs. They also reinforce the wellbore wall by cementing sections of large-diameter steel pipe atop one another down the well's shaft. This casing protects the wellbore from cave-ins, underground water, and formation pressures as the drilling bit moves downhole through the layers of clay and the sandstone or other oil-bearing rock. When such a formation is encountered and judged to be a sufficient reservoir of commercial volumes of hydrocarbons, the casing wall is perforated opposite that "producing sand." Next a string of smaller-diameter pipe or tubing is run down within the larger casing to the depth at which the perforation has been shot through the casing wall. Then appropriate packing is used to isolate the targeted reservoir so the hydrocarbons can flow beneath the end of and up the tubing string. This installation completes that reservoir for production and serves as a flow line up to the wellhead. Such a mechanical configuration together with the "completing" actions that keep oil and/or gas flowing remains a producing completion within the well until it is either closed down and shut in for some functional reason or is depleted and permanently plugged.

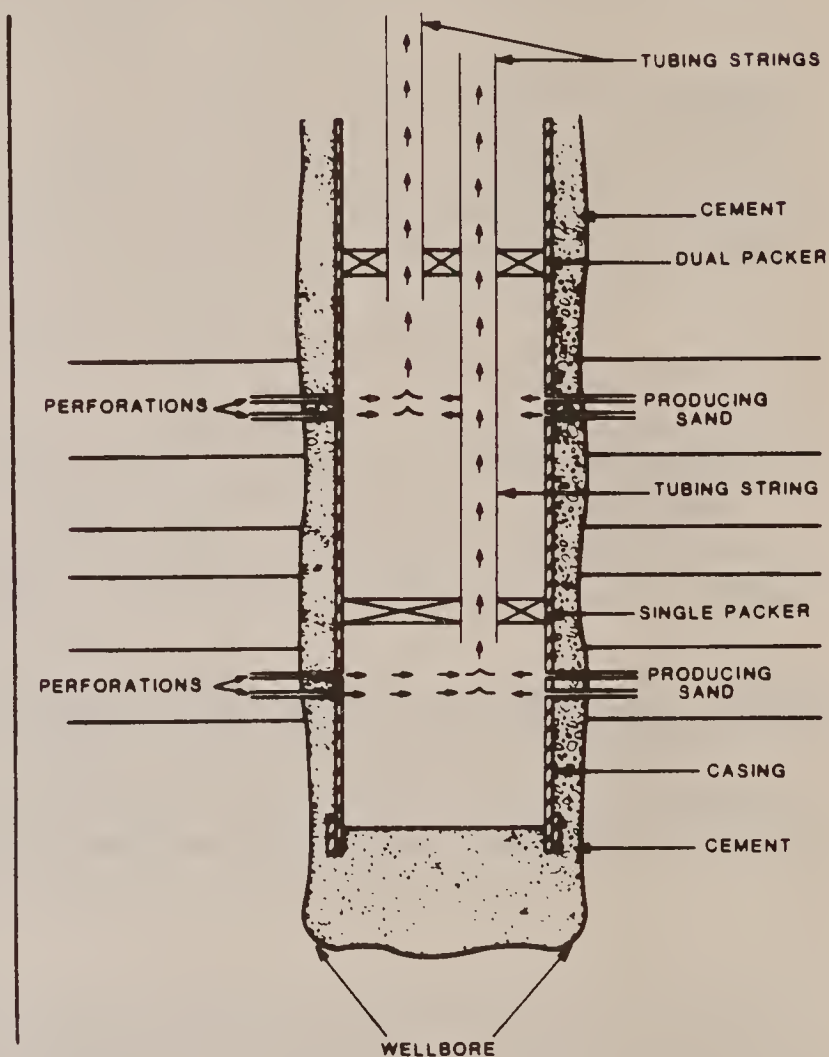


Figure 3. A MULTIPLE-ZONE COMPLETION.
(simplified diagram)

If two or more producible reservoirs have been encountered within a wellbore, the well has a multiple-zone completion. That allows several reservoirs to be produced separately but simultaneously through separate tubing strings. Practical considerations usually permit production from no more than two tubing strings; so production from additional reservoirs must ordinarily be deferred

until the initial reservoirs are depleted. For that reason and for other reasons, some well completions are routinely closed down or shut in. Thus the status of a multiple completion depends on the status of the well completions within the wellbore. Current data on the numbers and kinds of all shut-ins is therefore important production information.

2. Reasons for Shut-in Completions

For purposes of this report, a shut-in well is a well completion with zero production for a reporting month or year. Such a shut-in well is considered capable of either producing or being restored to a producing status unless its status is N/A (no future action seen, except eventual P & A). See Appendix Tables 1 and 2. Except in emergencies, operators must obtain approval from the MMS for shut-ins and be able to document the functional reasons that make it necessary to take a well completion out of production for any appreciable time.

Offshore well completions are generally assigned shut-in status for functional reasons beyond the immediate control of the lease operator. However, the operator must review all available well data to determine why a completion is not producing—and upon request submit that data to the MMS for review. If there is a reasonable chance that a shut-in completion can be made to produce again, choice must be made of the kind of workover operation that offers the best chance of restoring production.

To test the validity of a shut-in well completion, the MMS visually confirms during routine platform inspections that the completion is not producing, reviews the available field records, and determines why the completion is in shut-in status. Sand and water problems in the wellbore continue to cause about a third of these oil and gas shut-ins (Table 8).

Table 8. PRINCIPAL REASONS FOR SHUT-IN OCS COMPLETIONS, FY 1985

Reasons for Shut-in Oil Completions	Percent of Total Oil Shut-ins	Reasons for Shut-in Gas Completions	Percent of Total Gas Completions
1. Sanded-up Wellbore	20%	1. Watered-up Wellbore	18%
2. Watered-up Wellbore	12	2. Pipeline Curtailment	17
3. Low Reservoir Pressure	9	3. Sanded-up Wellbore	14
4. Hole in Tubing	7	4. Low Reservoir Pressure	9
5. High Gas/Oil Ratio	7	5. Pipeline Construction	6
6. Junk Equipment in Hole	6	Principal Reasons:	64%
Principal Reasons:	61%	6. Miscellany*	36
7. Miscellany*	39	All Reasons:	100%
All Reasons:	100%		

* Includes other shut-in factors, such as unusual mechanical and construction problems or the need to suspend production for reservoir studies.

Given the often uncertain availability and numerous possible locations of the proper workover equipment on the OCS, the date an operator schedules remedial work on a shut-in completion often cannot be firm. Therefore, if planned restoration activity is not done on time, it usually means that another well at another location had to be worked over instead of the one originally targeted. The MMS, however, must identify all overdue restoration dates and check with the operators on the future status of such well completions.

Functionally, the reasons for completion shut-ins fall into four categories: (1) operational problems involving equipment failure, reservoir pressure decline, reservoir performance tests, etc.; (2) conservation-related situations involving efficient utilization of energy resources; (3) safety-related situations involving the protection of personnel and the environment; and (4) regulatory-related problems involving the enforcement of inspection reports (Table 9).

Table 9. GULF OF MEXICO SHUT-INS CATEGORIZED FUNCTIONALLY, FY 1985

	<u>Oil Well Completions</u>		<u>Gas Well Completions</u>	
	<u>Total Shut-ins</u>	<u>Percent of Shut-ins</u>	<u>Total Shut-ins</u>	<u>Percent of Shut-ins</u>
Operational Problems	1,219	91.31%	1,727	94.32%
Conservation Situations	93	6.97	72	3.93
Safety Situations	14	1.05	25	1.37
Regulatory/Other	<u>9</u>	<u>0.67</u>	<u>7</u>	<u>0.38</u>
Totals:	1,335	100.00%	1,831	100.00%

NOTE: Because only 55 shut-in's were reported for the Pacific OCS Region in FY 1985, this table categorizes only those in the Gulf of Mexico OCS Region.

In FY 1985, unavoidable operational problems accounted for 91 percent of all oil completion shut-ins and 94 percent of all gas completion shut-ins. The remaining problems are in categories that can usually be anticipated and controlled. They are mainly related to safety, conservation, and regulatory matters.

The number of shut-in completions has not increased significantly in proportion to total completions on the OCS in the past nine years. At the end of FY 1977, shut-in completions accounted for 29 percent of all completions; at the end of FY 1985, they were 32 percent of all completions.

OCS operators could restore about 13 percent of the shut-in oil wells to production by merely opening the surface valve; however, about 65 percent of the completions in this category are shut in because of (1) high gas/oil ratios,

(2) low reservoir pressure, or (3) incomplete well studies. It should be noted that completions in oil wells with a high gas/oil ratio are shut in to conserve reservoir energy so that other well completions perforated lower in the same reservoir may drain the oil more efficiently.

Table 10 lists the kinds of actions generally required in attempts to restore shut-in completions to producing status. The term "attempt" is customary since there is no certainty that a given corrective action will always be successful. Operators could restore approximately 655 of the shut-in gas wells or 36 percent to production by simply opening the surface valve. However, approximately 46 percent of those completions are currently shut down because of pipeline curtailment.

Table 10. CORRECTIVE ACTIONS NEEDED TO RESTORE OCS SHUT-INS, FY 1985

<u>Corrective Action</u>	<u>Percentage of Shut-In Completions</u>	
	<u>Oil Wells</u>	<u>Gas Wells</u>
Major Workover	39%	25%
Minor Workover	39	23
Construction Repairs	9	16
Valve Opening	<u>13</u>	<u>36</u>
Totals:	100%	100%

Included in the Appendix to this report is a shut-in well status summary as of September 30, 1985. This counts all shut-in completions of all wells in Federal waters. The summary also indicates why they are shut in and what actions are required to attempt their restoration to production. Completions that can be recompleted elsewhere in the same wellbore are also shown, as well as those nonproducing completions for which no future action is planned and which will be P&A.

3. Shut-in Well Completions: FY 1985 and FY 1984 Comparisons

As of September 30, 1985, shut-in well completions totaled 3,166 in the Gulf of Mexico OCS Region and 55 in the Pacific OCS Region. This compares to 3,018 and 67 respectively as of September 30, 1984. The overall increase in the Gulf of Mexico shut-ins can mainly be attributed to slackened demand for natural gas. To illustrate, at the end of FY 1984, there were 264 gas completions shut-ins as a result of not having an identified market or because of curtailment of existing sales; at the end of FY 1985, this figure had risen to 417, up by 58 percent.

J. Gas Flaring

The disposal by burning off or venting to the atmosphere of unusable or temporarily unwanted gas is regulated by the DOI in two categories as: (1) short-term or small-volume flaring (without prior approval); and (2) extended-term flaring (with prior approval).

Short-term or small-volume flaring includes three kinds of gas disposal: (1) of gas vapors released from low-pressure production vessels (when such vapors cannot be economically retained or recovered; (2) in emergencies (when gas has to be diverted to a flare line because of compressor or other equipment failure or for the relief of abnormal system pressures); and (3) for well purging or evaluation testing (during cleanups or unloading and during drillstem, producing, or other evaluation tests not exceeding 24 hours). Moreover, other kinds of emergency flaring are prohibited, without prior approval, for a continuous period in excess of 72 hours or for a cumulative period of 144 hours in any single month.

Extended-term flaring includes two kinds of disposal: (1) of gas- and oil-well gas during routine or special well tests other than for the above short-term purposes; and (2) of oil-well gas for periods not exceeding one year, provided that the operator has already started trying to end the flaring or has evaluated adequate geologic, engineering, and economic data that indicate continued uneconomic production would mean a greater energy loss than the requested flaring.

Tables 11 and 12 present monthly gas-flaring statistics for the Gulf of Mexico and Pacific OCS Regions, respectively, for FY 1985. In the Gulf of Mexico OCS Region, flared oil-well gas averaged 3.18 percent of oil-well gas produced, and total gas flared averaged 0.46 percent of all gas produced. In the Pacific OCS Region, flared oil-well gas averaged 0.79 percent of oil-well gas produced, and total gas flared averaged 0.55 percent of all gas produced. Approximately 19.2 billion cubic feet of gas was flared in FY 1985 compared to 18 billion cubic feet in FY 1984. Table 13 details information on oil-well gas flared in FY 1985 under approved extended-term status for the Federal leases in Gulf of Mexico OCS. There was no extended-term gas flaring in the Pacific OCS Region during FY 1985.

Table 11. GAS FLARING SUMMARIZED BY MONTH ON THE GULF OF MEXICO OCS, FY 1985

	Flared Gas in Mcf				Production in Mcf		O-W Gas Flared as Percent of Total O-W Gas Production	Total Gas Flared as Percent of Total Gas Production
	Short Term Oil-Well Gas	Extended Term Oil-Well Gas	Short Term Gas-Well Gas	Total Gas Flared	Total O-W Gas	Total Gas		
1984:								
OCT	1,191,354	26,039	154,677	1,372,070	41,721,852	363,904,265	2.92%	.377%
NOV	1,190,951	22,355	148,587	1,361,893	40,336,976	354,081,226	3.01	.385
DEC	1,045,956	57,261	184,509	1,287,726	42,810,990	396,971,602	2.58	.324
1985:								
JAN	1,644,025	80,755	208,706	1,933,486	42,592,773	391,698,820	4.05	.494
FEB	1,434,191	139,927	218,356	1,792,474	42,182,035	387,321,310	3.73	.463
MAR	1,261,723	285,375	193,295	1,740,393	47,919,669	378,326,241	3.23	.449
APR	858,548	254,389	135,528	1,248,465	46,275,526	348,958,270	2.41	.358
MAY	1,256,201	77,225	206,773	1,540,199	47,960,450	342,294,611	2.78	.450
JUN	1,403,645	58,200	149,485	1,611,330	46,225,544	310,755,020	3.16	.518
JUL	1,180,002	69,406	164,319	1,413,727	46,569,653	311,849,417	2.68	.453
AUG	1,762,240	42,693	326,902	2,131,835	38,602,521	274,213,444	4.68	.777
SEP	1,283,710	20,514	183,131	1,487,355	39,578,245	291,550,748	3.30	.510
	A	B	C	D=A+B+C	E	F (O-W & G-W)	$\frac{A+B}{E}$	$\frac{D}{F}$
Totals:	15,512,546	1,134,139	2,274,268	18,920,953	522,776,234	4,151,924,974	3.18%	.456%

NOTE: Gas volumes for these monthly statistics are developed from preliminary data that may not match other gas volumes shown elsewhere in this report.

Table 12. GAS FLARING SUMMARIZED BY MONTH ON THE PACIFIC OCS, FY 1985

	Flared Gas in Mcf				Production in Mcf		O-W Gas Flared as Percent of Total O-W Gas Production	Total Gas Flared as Percent of Total Gas Production
	Short Term Oil-Well Gas	Extended Term Oil-Well Gas	Short Term Gas-Well Gas	Total Gas Flared	Total O-W Gas	Total Gas		
1984:								
OCT	16,207	0	2,100	18,307	2,848,334	5,285,258	.569%	.346%
NOV	19,142	0	0	19,142	3,001,666	3,470,627	.638	.552
DEC	23,462	0	0	23,462	3,120,338	4,585,117	.752	.511
1985:								
JAN	30,238	0	125	30,363	2,926,327	6,393,720	1.033	.475
FEB	32,926	0	0	32,926	2,787,769	5,882,628	1.181	.559
MAR	20,818	0	0	20,818	3,067,102	6,426,752	.679	.324
APR	22,372	0	26	22,398	2,524,356	5,232,788	.886	.428
MAY	18,619	0	2,162	20,781	2,903,736	5,495,701	.641	.378
JUN	34,076	0	59,029	93,105	3,007,785	5,505,831	1.133	1.690
JUL	12,814	0	10,690	23,504	2,898,366	5,420,911	.442	.433
AUG	21,941	0	1,100	23,041	3,011,917	5,550,871	.728	.415
SEP	16,176	0	4,123	20,299	2,096,006	4,384,249	.772	.463
	A	B	C	D=A+B+C	E	F (O-W & G-W)	$\frac{A+B}{E}$	$\frac{D}{F}$
Totals:	268,791	0	79,355	348,146	34,193,702	63,634,453	.786%	.547%

NOTE: Gas volumes for these monthly statistics are developed from preliminary data that may not match other gas volumes shown elsewhere in this report.

Table 13. SUMMARY OF EXTENDED-TERM GAS FLARING IN THE GULF OF MEXICO OCS, FY 1985

<u>Operator</u>	<u>Area/ Block</u>	<u>OCS Lease: Well(s)</u>	<u>Year's Flaring in Mcf</u>	<u>Initial Approval Date</u>	<u>Date of First Flaring</u>	<u>Expiration of Latest Approval</u>	<u>Cessation of Flaring Ordered</u>	<u>Date Flaring Ceased</u>	<u>Reason for Approval of Flaring by MMS</u>
Amoco	SS 219	0829: B-1 B-5 B-8 B-10 B-11D B-13 B-14 B-16 B-19 B-20 B-21 B-24 B-25	132,468	11/28/84	11/28/84	06/01/85	Yes	05/26/85	Flaring of oil wells approved during compressor installation.
Amoco	ST 161	G1248: A-4	16,209	01/06/84	01/06/84	12/01/85	No	----	Flaring approved due to insufficient economics.
ARCO	MC 192	G2636: A-9	61,310	03/14/84	03/14/84	09/30/85	Yes	05/15/85	Flaring of oil-well gas approved due to insufficient economics.
Chevron	EC 160	0541: #5	656	01/30/85	01/30/85	01/15/86	No	----	Flaring of associated gas approved due to insufficient economics.
Gulf	SS 153	0420: C-10 C-28 #14	56,775	03/29/84	03/29/84	03/01/86	No	----	Flaring of oil-well gas approved due to poor economics.

Table 13 (continued). SUMMARY OF EXTENDED-TERM GAS FLARING IN THE GULF OF MEXICO OCS, FY 1985

Operator	Area/ Block	OCS Lease: Well(s)	Year's Flaring in Mcf	Initial Approval Date	Date of First Flaring	Expiration of Latest Approval	Cessation of Flaring Ordered	Date Flaring Ceased	Reason for Approval of Flaring by MMS
Kerr- McGee	SS 217	G1021: A-3	46,331	11/29/84	11/29/84	06/01/86	No	----	Flaring approved due to insufficient economics.
Mobil	EI 105	0797: D-1 D-8	155,002	02/27/85	02/27/85	04/29/85	Yes	04/29/85	Flaring of associated gas approved during compressor installation.
Mobil	VR 182	G2074: A-7	8,399	07/22/85	07/22/85	07/15/86	No	----	Flaring approved due to poor economics.
Mobil	WC 176	0762: #2	0	07/24/85	07/24/85	03/31/86	No	----	Flaring of oil-well gas approved during compressor installation.
ODECO	PL 19	0073: #19E	40,709	08/07/85	08/07/85	04/01/86	No	----	Flaring of sour H ₂ S gas approved due to poor economics.
	PL 20	0074: #9	36,789						
ODECO	MP 59	G3194: A-1C A-2B A-4B A-5B	52,138	02/08/83	02/08/83	01/31/86	No	----	Flaring of associated gas approved due to poor economics.

Table 13 (continued). SUMMARY OF EXTENDED-TERM GAS FLARING IN THE GULF OF MEXICO OCS, FY 1985

<u>Operator</u>	<u>Area/ Block</u>	<u>OCS Lease: Well(s)</u>	<u>Year's Flaring in Mcf</u>	<u>Initial Approval Date</u>	<u>Date of First Flaring</u>	<u>Expiration of Latest Approval</u>	<u>Cessation of Flaring Ordered</u>	<u>Date Flaring Ceased</u>	<u>Reason for Approval of Flaring by MMS</u>
Shell	VR 164	0493: #9	3,001	06/23/80	06/23/80	06/01/86	No	----	Flaring approved due to insufficient economics.
Sohio	MC 20A	G4935: A-1 A-2 A-3 A-4	223,111	01/28/85	01/28/85	06/12/85	Yes	06/08/85	Flaring of oil wells approved during installation of pipeline.
Tenneco	ST 27	G1442: #7 B-1 B-4 B-2D C-5D C-18 D-6 D-11 D-14D F-1	72,637	03/06/85	03/06/85	05/01/85	Yes	04/25/85	Flaring of oil wells approved during installation of additional compressor capacity.
Total Petroleum	MP 65	G5692: #2 #2D #3 A-4 A-5 A-6	228,604	08/13/84	12/01/84	12/01/85	Yes	08/25/85	Flaring of associated gas approved during installation of gas pipeline.

II. MANAGEMENT, SUPERVISION, SAFETY, AND ENFORCEMENT

A. Regulations

For the fifth consecutive year, work continued on the revision, clarification, and consolidation of operating regulations. Moreover, all the recommendations of the MMS Regulatory Reform Task Force were subjected to review in FY 1985. Formed in FY 1983 to consolidate into 30 CFR 250 the multi-tiered rules governing oil and gas operations in the offshore program, the task force goals include: (1) elimination of redundant, burdensome, unnecessary, and counter-productive requirements imposed by current rules; (2) introduction of more performance standards; (3) simplification of the language of the rules; and (4) maintenance of appropriate human, property, environmental, and resource conservation standards. The task force has studied all requirements in current OCS Orders, Notices to Lessees and Operators, conditions of approval, and MMS standards with a view to possible incorporation in a unified set of rules that the MMS expects to publish during FY 1986.

During FY 1985, one substantive rule was promulgated as final, and work started or continued on many more. A summary of this rulemaking activity follows:

° 30 CFR Part 270: A Final Rule was published in the Federal Register on May 22, 1985 (50 FR 21047), with an effective date of June 21, 1985. This Final Rule implemented section 604 of the OCSLA Amendments of 1978 by prohibiting unlawful discrimination in contracting and subcontracting related to OCS activities and by providing for the enforcement of such prohibition.

° 30 CFR Part 250: An Advance Notice of Proposed Rulemaking (ANPR) was published in the Federal Register on November 13, 1984 (49 FR 44924). This ANPR requested responses to questions on the economic, technologic, legal, and environmental problems associated with standards in 30 CFR Part 250 concerning removal of unused, postproduction platforms.

° 30 CFR Chapter II: An ANPR was published in the Federal Register on December 7, 1984 (49 FR 47871). The ANPR requested comments and recommendations concerning DOI's consideration of issuing new regulations to govern exploration in the OCS for minerals other than oil, gas, and sulphur under the authority of the OCSLA. This advance notice responded to earlier comments from industry, environmental groups, interested parties, and other Federal Agencies on the DEIS for the Gorda Ridge and from the Federal/State Task Forces formed to evaluate the environmental, economic, and engineering potential of the various OCS areas thought to have "other" minerals.

° 30 CFR 250.57: An ANPR was published in the Federal Register on January 7, 1985 (50 FR 838). It requested information on whether the MMS should amend its OCS air quality rules by including special provisions for the OCS off the State of California. This ANPR solicited comments on the established air quality program and on possible modifications that could be considered for rules now applicable to OCS areas adjacent to California.

° 30 CFR Chapter II: An ANPR was published in the Federal Register on April 19, 1985 (50 FR 15590). The ANPR requested comments and recommendations con-

cerning the DOI's consideration of issuance of new regulations to govern leasing in the OCS for minerals other than oil, gas, and sulphur under the authority of the OCSLA. This ANPR responded to earlier comments from industry, environmental groups, interested parties, States, and Federal Agencies on the DEIS for the Gorda Ridge and from the Federal/State Task Forces evaluating the environmental, economic, developmental, and operational aspects of "other" minerals production on the OCS.

° 30 CFR Parts 250 and 256: A proposed rule was published in the Federal Register on June 11, 1985 (50 FR 24546), to amend the regulations to provide an 8-year primary term for leases in the OCS in water depths between 400 and 900 meters. Under the proposal, the lessees would be required to commence an exploratory well within the first 5 years of the term. The longer term is needed to accommodate deepwater leases.

° 30 CFR Part 250: A proposed rule was prepared for publication in the Federal Register in October 1985 as an amendment to OCS Order No. 5. The proposed rule would incorporate by reference into OCS Order No. 5 the 1984 edition of the American Petroleum Institute (API) "Recommended Practice 14C, Analysis, Design, Installation and Testing of Basic Surface Safety Systems for Offshore Production Platforms." This would be in lieu of the API's 1978 edition which is currently incorporated into OCS Order No. 5.

° 30 CFR 256.23 and 256.26: An amendment to the title of Subpart D of 30 CFR Part 256 and an amendment to 30 CFR 256.23(b) and 256.26(a) were prepared to indicate that nominations of areas that should be considered for leasing in the OCS are thus being requested whenever a Call for Information is issued. These amendments are intended to clarify the scope of the information being solicited from the public.

° CFR 252.2: A proposed rule was prepared for publication in the Federal Register to amend the current definition of "area adjacent to a State" to deem the States of New York and Rhode Island adjacent to the North Atlantic Planning Area even though the two affected States do not physically border that particular offshore planning area.

B. Well-Control Schools

Begun in FY 1979, the MMS well-control training program is designed to ensure that OCS drilling crews know how to both prevent and control blowouts. The MMS approval process includes the review of all training program documents submitted and the onsite inspection of industry-run training schools to verify that the actual training program is being implemented as approved. After initial approval, the MMS makes unannounced visits to assure continued compliance with the MMS training standards. During FY 1985, the agency performed such unannounced evaluations of 38 well-control schools.

The MMS also certified or recertified 14 basic and refresher courses and 5 rotary helper and derrickman courses during FY 1985. Thus by yearend, industry was operating a total of 193 certified well-control schools including 60 basic, 59 refresher, and 74 rotary helper and derrickman schools.

C. Inspection and Enforcement

During FY 1985, the MMS continued the documentation of offshore inspection policies and procedures that began with the signing of the Offshore Inspection Program Manual Chapter on May 8, 1983. Regional Field Office Supplements were completed and approved for the Pacific OCS Region on August 1, 1985; for the Gulf of Mexico OCS Region on August 13, 1985; and for the Alaska OCS Region on September 6, 1985. The drilling subsystem of the Offshore Inspection System (OIS), a computerized data base, was also completed and installed in all OCS Regions during September 1985. Other already published documentation includes the Manual Chapter, the Offshore Inspection Program Handbook, and the National Potential Incident of Noncompliance (PINC) List.

The MMS will complete the documentation of OIS next year with the installation of production, pipeline, and meter subsystems in all OCS Regions. Regional Supervisor Instructions and District Office Instructions under development in FY 1985 were scheduled for publication during FY 1986. With their completion, the MMS Offshore Inspection Program will be fully documented for consistent nationwide application.

During FY 1985, the MMS completed 13,184 inspections of drilling, production, pipeline, and measurement operations: 865 in the Alaska OCS Region; 10 in the Atlantic OCS Region; 10,121 in the Gulf of Mexico OCS Region; and 2,188 in the Pacific OCS Region.

D. Equipment Certification

The DOI established equipment certification requirements when it issued revised OCS Orders in January 1980. In FY 1985, the Committee on Safety and Pollution Prevention Equipment of the American Society of Mechanical Engineers (ASME) continued to participate in the certification program, as did the Subcommittee on Repair. Renamed the Subcommittee on Referenced Standards, the latter was formally established in 1981 to develop generic requirements for handling the repair of certified surface and subsurface safety valves. During FY 1985, the MMS continued working closely with both ASME groups in order to make revisions and updates of existing standards and to develop new standards as needed.

E. Platform Verification

Since FY 1980, the DOI has monitored offshore structures through its Platform Verification Program (PVP) in the MMS Office of Program Support and Coordination. With the PVP, the MMS provides guidelines that help assure that fixed and bottom-founded oil and gas platforms on Federal OCS leases have a high probability of surviving the environmental conditions to which they are exposed. Accordingly, for verification the PVP requires that the design, fabrication, and installation of all platforms be reviewed and evaluated by lessee nominated, independent technical organizations certified by the MMS. These third parties are known as Certified Verification Agents.

OCS platforms subject to review under the PVP include those in frontier areas where severe weather or extreme environmental conditions prevail and those which

incorporate unusual or innovative design features. Of the 10 structure reviewed in FY 1985, 7 were new platforms, 2 were single-piece steel drilling caissons (SSDC), and 1 was a new Arctic gravel island. Two of the platforms were being built in the Far East for California OCS waters, and five others for deepwater in the Gulf of Mexico OCS. The gravel island and the SSDCs were in the Arctic's Beaufort Sea. One of the new platforms under review, Bullwinkle, will be located in a 1,350-foot water depth in the Gulf of Mexico OCS. This increased to 68 the total number of platforms, gravel islands, and other structures reviewed since the PVP was begun 5 years ago. The PVP personnel also continued working with the API subcommittee that is developing guidelines for tension-leg platforms.

F. Technology Assessment and Research

The Technology Assessment and Research (TA&R) Program is an integral part of the inspection and enforcement mission of offshore operations. As such, it provides a formal technology base for regulatory personnel who work with the oil and gas industry operating on the technological frontiers of the deeper oceans and the ice-infested Arctic. The TA&R staff assess and analyze the status of available technologies and, through these studies, promote ongoing dialog at the engineering level among industry, the universities, and MMS personnel. For management purposes, the study areas are grouped under either well-control, or verification of offshore structures and pipelines, or oil spill containment and cleanup. The TA&R programmatic content is tailored to the functional needs of MMS operations as follows: operational permits and plan approvals, safety and pollution inspections, enforcement actions, accident investigations, and well-control training requirements. Priorities for analyses are based upon the Department's 5-year lease sale plans and upon the inferences drawn from the planning for those areas by industry engineers. In this way, the program can achieve maximum effectiveness in providing assurances in a timely manner that OCS technologies are satisfactorily understood for safe application.

Projects illustrative of current programmatic emphasis included investigations of: (1) improved blowout-prevention procedures for deepwater drilling and improved gas diverter systems for use when shallow gas blowouts occur before blowout preventers are in place; (2) the inspection problems associated with the structural features of tensioned piles and legs of tension-leg platforms; (3) the engineering properties of multiyear ice ridges and the platforms exposed to the resulting forces; and (4) the subsea collection of oil as it escapes from a blowing wellhead.

The program currently administers about 35 active projects at universities, private companies, and government laboratories. About half are participatory with the offshore industry or other government agencies. A network of Operations Technology Assessment Committees (OTAC) expedite information exchange in both MMS headquarters and regional offices. These OTACs review operational problems, discuss technology needs, and recommend improvements in the MMS regulatory program. For example, the findings from the above-mentioned gas diverter research will be used to amplify and clarify requirements already in the MMS regulations. Scientific and engineering investigators serve as staff adjuncts by participating at OTAC meetings in discussions of their specialties, thus greatly facilitating technology transfer. This OTAC network, together with the TA&R

Program, is a primary way for the MMS to comply with the OCSLA Amendments section 21(b) requirement to use the "best available and safest technologies which [are] economically feasible" (BAST).

The 1984 publication "Technology Assessment and Research Program for Offshore Minerals Operations," OCS Report MMS 84-0001, is available without charge from the Technical Publications Unit, Office of Offshore Information Services, Minerals Management Service, 1951 Kidwell Drive, Suite 601, Mail Stop 640, Vienna, Virginia 22180. The 1986 edition of this report will be published next year.

G. Safety Violations

During FY 1985, the USCG conducted 785 investigations in response to 1,917 reports or allegations of violations of safety regulations on OCS facilities. As a result, 2,937 corrective requirements were issued. Of those, 18 Reports of Violations were officially forwarded to the MMS for either administrative or judicial action, in accordance with the procedures outlined in 33 CFR Part 140.40.

H. Diving Studies

The USCG did not participate in any diving studies pursuant to section 21(e) of the OCS Lands Act, as amended (43 U.S.C. 1347(e)), during FY 1985. The Department of Commerce is identified as the lead Agency for such studies under section 21(e).

III. OTHER OCS PROGRAM ACTIVITIES

Along with the leasing and operational activities which marked the Department's efforts to meet the goals of the OCSLA, as amended, a number of related activities were carried out during FY 1985.

A. Fair Market Value

The final report of the OCS Fair Market Value Task Force was published in 1983 by the MMS as "Procedures for OCS Bid Adequacy." In it, the task force recommended use of a two-phase bid adequacy method. As adopted in February 1983, the procedures relied on actual bid data and MMS tract classification and evaluation to appraise bids. Subsequently, the MMS implemented the procedures in the first areawide lease offering. That was Sale 76 (Mid-Atlantic) held on April 26, 1983.

Phase 2 of the bid adequacy guidelines was modified that same April to include "qualitative" factors that could be used in bid acceptance or rejection decisions. For example, the Regional Directors could consider the effect of the number of different companies submitting bids on a tract.

Based on an ongoing review of the bid adequacy procedures and on the OCS lease market, other technical changes were made during the next 2 years. In February and March of 1984, the bid adequacy guidelines were further modified to: (1) discontinue application of the "qualitative" factors in Phase 2, with the exception of the drainage costs, until a rigorous procedure was developed for quantitatively applying them; (2) reemphasize that the classification of tracts as nonviable in Phase 1 should occur only when adequate data and maps exist to support such a determination; and (3) eliminate the geometric mean (geomean) of the bids rule in Phase 1.

These modifications were first implemented in Sale 83 (Navarin Basin) on April 17, 1984. In July 1984, the bid adequacy guidelines were again modified to: (1) give the Regional Director discretionary authority, after consultation and coordination with the Solicitor, to pass to Phase 2 for further analysis any tracts identified and documented as having an unusual bidding pattern; and, (2) permit review of the viability of all wildcat and proven tracts passed to Phase 2 based on further mapping and/or analysis, using the viability criterion applied in Phase 1, and accept high bids on tracts determined to be nonviable. These modifications were implemented in Sale 84 (Western Gulf of Mexico), July 18, 1984.

As a result of an extensive review and analysis of the OCS bid adequacy procedures, additional technical modifications were made in May 1985. These changes were designed specifically to:

1. Encourage the development of presale tract evaluation inputs for drainage and development tracts whenever possible, and completion in Phase 2 of the evaluations for such tracts concurrently with Phase 1 evaluations for wildcat and proven tracts.

2. Discontinue the nonviability determinations in Phase 1 for wildcat and proven tracts receiving three or more adjusted bids.
3. Calculate the average number of bids parameter in Phase 1 by using only viable wildcat and proven tracts receiving one or two adjusted bids and all wildcat and proven tracts receiving three or more adjusted bids.
4. Apply the Geometric Average Evaluation of the Tract (GAEOT) in Phase 2 only to wildcat and proven tracts receiving two adjusted bids and to all tracts receiving three or more adjusted bids. The GAEOT no longer applies to two-bid drainage and development tracts.

B. Alternative Bidding Systems

Fiscal Year 1983 was the last year of the 5-year test of the alternative bidding systems that was specified in section 8 of the OCSLA, as amended (43 U.S.C. 1337 (a) and (b)). Only 1/6- and 1/8-fixed royalty bidding systems were used in FY 1985 sales. One-sixth or 16 2/3 percent royalty is used in shallow, low-cost areas while one-eighth or 12 1/2 percent royalty is used in high-cost areas. Royalty rate differences are normally based on water depth, except in Alaska where royalty rates are chosen on a sale-specific basis. The list below gives the water-depth limits that constitute the 1/8 royalty demarcations in all OCS regions:

1/8-Royalty Demarcation

<u>Region</u>	<u>Water Depth</u>
Atlantic OCS	200 meters
Gulf of Mexico OCS	400 "
Pacific OCS	200 "
Alaska OCS	variable

C. Primary Lease Terms

In March 1985, the Secretary of the Interior decided that all new OCS leases in 400 to 900 meters of water on the OCS would be issued with 8-year primary lease terms. This policy was first implemented with Central Gulf of Mexico Sale 98 in May 1985. The MMS scheduled the amendment of the implementing regulation (30 CFR 256.37) for November publication. That amendment stipulates an 8-year primary lease term for leases in 400- to 900-meter water depths.

The new policy specifies that leases in water depths between 400 and 900 meters will be issued for an 8-year primary lease term and requires that an exploration well be started within the first 5 years of the term to avoid lease cancellation. The decision modified the Department's previous policy of issuing 5-year leases at these water depths and of providing for automatic extensions upon approval of development and production plans. Adoption of this new 8-year lease term was based on a technical analysis of actual leases in water depths greater than 400 meters that had required more than 5 years before development was initiated. Additional analysis of Government and industry time estimates for leases in 400 to 900 meters of water also substantiated the finding that more than 5 years of

lead time was necessary to commence development ordinarily. The policy and regulatory changes, however, are subject to future reassessment as warranted by technological changes.

Existing leases in 400- to 900-meter water depths are not affected by the change if they were issued before the decision. Also unaffected are existing and future leases in water depths less than 400 meters. These leases will continue to carry 5-year primary lease terms. Existing and future leases in water depths greater than 900 meters will continue to carry 10-year primary lease terms. Such 10-year terms are also issued for leases subject to unusually adverse conditions, most notably on the Alaska OCS, north of the Aleutian Islands.

D. Environmental Studies

During FY 1985, the MMS obligated \$26.3 million for offshore environmental and socioeconomic studies under the oil and gas program. The studies were performed under contracts awarded to the private sector (36.9 percent), to other Federal Agencies (39.4 percent), to research institutes (15.6 percent), to colleges and universities (7.4 percent), and to State governments (0.7 percent). These percentages reflect only the initial transfer of funds. Such fund transfers by the MMS are typically redistributed to other private sector entities and academic institutions.

Environmental Studies Program funds are allocated annually to support both national and regional information needs. In FY 1985, the funds were expended by office as follows:

Alaska OCS Region	\$11.4 million (43.4 percent)
Pacific OCS Region	4.0 million (15.4 percent)
Atlantic OCS Region	5.4 million (20.5 percent)
Gulf of Mexico OCS Region	4.2 million (15.9 percent)
Headquarters Studies*	1.3 million (4.8 percent)

*These Washington-based studies, either done at or managed from headquarters, are generic and have programmatic application or are applicable to special problems in one or more offshore regions.

The FY 1985 study projects in the Alaska OCS Region focused primarily on the Bering and Arctic regions. Major studies delineated the habitats of endangered species and assessed the effects of offshore operations on them. Project teams also collected background information to support monitoring efforts on trace metal and hydrocarbon levels in the Beaufort Sea and on selected nesting seabird colonies in the Bering Sea. In other studies, they assessed offshore operational hazards, behavior of oil spillages in nearshore areas, and the long-range effects of offshore operations on native communities and their subsistence resources, and on commercial fisheries.

Deepwater studies of biological and physical processes, begun in 1983, are still the main components of the Atlantic studies program in 1985. While those studies proceed in all three planning areas, the programs have been

reduced somewhat in the North and South Atlantic because there is no drilling activity and attendant monitoring. The final report for the 3-year Georges Bank Monitoring Program was completed in 1985. Field data collection was also completed for two physical oceanography studies: the multiyear Blake Plateau current measurement study; and the Gulf Stream eddies and meanders study being done under a cooperative agreement with the State of Florida. The MMS in meetings with State of North Carolina staff under a Memorandum of Understanding (MOU), initiated planning for physical oceanography data collection and modeling off that State's coast.

A major component of the studies program in the Gulf of Mexico is the ongoing physical oceanography data collection and modeling of the deep Gulf. When complete, this environmental study will: (1) describe pollutant transport mechanisms over the continental slope and abyssal plain of the entire Gulf; (2) provide support for oil-spill trajectory analyses; and (3) supply critical information for modeling shelf water movements. Marine biologists finished the field sampling needed for two multiyear biological studies--on the Southwest Florida Shelf Ecosystem and on the Northern Gulf of Mexico Continental Slope. Also in FY 1985, other investigators started over on a recently completed study which had identified, counted, and mapped seagrass beds off the northern Gulf coast of Florida. The repeat was necessary because Hurricane Elena caused significant destruction to the seagrass communities.

The Pacific studies program continued its support of efforts to identify and clarify chronic adverse effects on the marine ecosystem that result from oil and gas development and production activities. Some specialists continued evaluating the effects of oil spills on sea otter populations and developing measures to mitigate any harmful effects. Other specialists continued work on ways to: (1) define pollutant transport mechanisms through computer modeling and at-sea measurements; (2) gather long-term information on rocky intertidal communities; (3) collect meteorological and sea-surface information from a network of data buoys; (4) investigate the adaptation of marine organisms to chronic hydrocarbon exposure; (5) develop baseline data for socioeconomic modeling; (6) determine the effects of OCS development on recreation and tourism; and (7) study the ecology of seabirds in central and northern California. New studies begun in FY 1985 are focused on investigating the effects of offshore seismic operations on fish; developing a California OCS fisheries database; and providing baseline information on California OCS archaeological resources.

Another initiative of the Pacific OCS Environmental Studies Program in FY 1985 was co-sponsorship of the data collection phase of the South Central Coast Cooperative Aerometric Monitoring Program. The Pacific program also continued co-sponsorship with the EPA of a study assessing the onshore ozone contribution from present and future OCS development in the Santa Barbara Channel area. The State of California and Ventura and Santa Barbara counties also participate in the technical review and direction of this study.

The Washington headquarters office manages several programmatic or generic studies which contribute to the overall quality and integrity of the Environmental Studies Program. Ongoing work includes archiving and curating biological specimens collected during field studies, development of technical report summaries and an automated retrieval system for them, and preparation of the environmental and socioeconomic analyses required under section 18 of the OCSLA, as amended.

E. Agreements with Federal Agencies, States, and Local Governments

The MMS continued working with the EPA in FY 1985 on procedures for implementing the cooperative efforts agreed upon in the MOU of the previous year. That MOU provides for early participation by the EPA in the DOI's Environmental Studies Program and EIS issuance. The EPA is thus able to issue National Pollutant Discharge Elimination System (NPDES) permits for an area at the same time that the DOI issues a final Notice of Sale for that OCS area. Before issuing the NPDES, the EPA consults with the DOI in order to properly identify potentially productive or unique biological areas that may be sensitive to discharges of pollutants from drilling operations. Such permitting helps limit effluents in OCS leasing areas and in turn prevents degradation of ocean waters.

Under a 1984 cooperative agreement derived from a 1983 MOU between the DOI and the State of North Carolina, the MMS had commissioned an initial assessment of "the effects of wind and Gulf Stream events on the currents off the coast of North Carolina as it relates to oil-spill risk potential." Subsequently, in cooperation with the State's Office of Marine Affairs, the MMS commissioned a panel of physical oceanographers to independently review the MMS methodology used for oil-spill risk analysis (OSRA). That OSRA Scientific Review Panel, as charged by MMS, worked during FY 1985 to "review the present methodology and make recommendations for future methodologies for oil-spill risk assessment." The panel's findings are scheduled for release early in FY 1986.

In FY 1985, the MMS cooperated with the State of California and local government interests to jointly prepare environmental impact statements/reports (EIS/EIR) on three OCS oil and gas developments located offshore the Central California OCS. Each EIS/EIR included analyses of the cumulative effects contributed by the development of other nearby sites:

1. On November 6, 1984, the MMS published the final EIS/EIR for the Point Arguello Development Project. This project includes three offshore production platforms, subsea and overland pipelines, and onshore processing facilities.
2. In April 1985, the MMS began preparing an EIS/EIR for the San Miguel Development Project. It will involve one development platform, subsea and overland pipelines, and onshore processing facilities. The EIS/EIR is scheduled for completion during FY 1986.
3. On July 5, 1985, the MMS published the final EIS/EIR for the Point Pedernales Development Project. The project will include two development platforms, subsea and overland pipelines, onshore processing facilities, and modifications to an existing oil refinery.

F. Consultations with Federal and State Agencies and Private Groups

The DOI maintained extensive contacts during FY 1985 with other Federal and State agencies, the oil and gas industry, environmental organizations, educational and scientific organizations, special interest groups, and private citizens. Consultations at national and regional levels enabled other agencies, the public, and industry to offer many, varied comments on the OCS leasing pro-

gram, the planning of individual sales, and other phases of oil and gas development in Federal offshore waters. Formal MMS meetings included those of the OCS Advisory Board's components: the OCS Policy Committee, the six Regional Technical Working Groups (RTWGs), and the OCS Scientific Committee. Informal meetings were also held among MMS officials, other Federal Agencies, State bodies, and concerned citizen groups.

OCS Advisory Board: Established in 1975, the OCS Advisory Board counsels and informs the Secretary, the Director of the MMS, and other officers of the DOI on the performance of discretionary functions deriving from the OCS Lands Act, including all aspects of leasing, exploration, development, and protection of the mineral and natural resources of the OCS. The Board consists of the members of the OCS Policy Committee, the six RTWG committees, and the OCS Scientific Committee. The particular work of each committee during FY 1985 is summarized next.

OCS Policy Committee: The OCS Policy Committee consists of one policy level person from 22 coastal States and from Pennsylvania and Hawaii. Each is nominated by the Governor for appointment by the Secretary. Membership also includes up to 12 members from the public and private sectors whose appointments are made by the Secretary to affect balance in terms of background, constituency, points of view, and functions of the Committee. Nonvoting members are appointed to the Committee by the heads of the Departments of State, Commerce, Defense, Transportation, and Energy, and the Environmental Protection Agency. In addition, the Secretary may appoint two ex-officio, at-large nonvoting Federal members. The Director of the MMS and Assistant Secretaries of the DOI with direct mission responsibility for the OCS program or their representatives are also ex-officio nonvoting participants in the Committee's activities. The Committee elects a chairperson and vicechairperson to serve 2-year terms. The Committee, supported by the Office of Offshore Information Services, met twice during FY 1985.

Agenda items at the two meetings included leasing strategies, environmental assessment, the proposed new 5-year leasing program, resource evaluation, regulatory reform, legislative activity, leasing of strategic and critical minerals, and research programs--all emphasizing the impacts on State and local resource areas. The Committee forwarded its recommendations to the Secretary of the Interior in the form of resolutions for his consideration. Several of these resolutions were incorporated into Departmental policy. Copies of the minutes of each meeting are available from the Office of Offshore Information Services, MMS, 18th & C Streets, N.W., Mail Stop 640, Washington, D.C. 20240.

RTWG Committees: Six RTWG Committees advise the Director of the MMS on technical matters of regional concern regarding OCS prelease and postlease activities. The North Atlantic, Mid-Atlantic, South Atlantic, Gulf of Mexico, Pacific, and Alaska regions are represented.

The Governors of coastal States and Pennsylvania nominate one member each for appointment by the Secretary. In addition, the Secretary appoints public and private sector representatives. Nonvoting members within the RTWGs represent the MMS, USCG, EPA, Department of Defense, Department of Energy, National Oceanic and Atmospheric Administration (NOAA), and U.S. Fish and Wildlife Service (FWS).

Each RTWG committee is co-chaired by a State representative and the appropriate Regional Director of the MMS. The Regional Director's staff provides support as does the staff of the Office of Strategic and International Minerals. The RTWGs maintain a balanced membership to assure that the MMS Director gets timely technical advice that is representative of significant viewpoints within the States and Regions. Total membership has ranged from 100 to 116.

In the 11 meetings of FY 1985 the RTWG Committees focused on agenda items of a technical nature involving offshore prelease and postlease activities of regional concern. Detailed minutes of each RTWG Committee meeting, recommendations made, and copies of all studies and reports issued or approved in conjunction with the activities of the working group, are available for public inspection at the appropriate OCS regional office. See subsection G of this section for more detailed descriptions of FY 1985 activities.

OCS Scientific Committee: The OCS Scientific Committee advises the Director of the MMS on the feasibility, appropriateness, and scientific value of the Environmental Studies Program. The Committee reviews the relevance of data produced by the program and recommends changes in its scope, direction, and emphasis.

The Scientific Committee consists of from 10 to 15 members appointed by the Secretary to 2-year terms. Appointments are based on scientific competence and relevant technical skills. The Director of MMS designates an executive officer and provides administrative support. The Scientific Committee, which held three meetings in FY 1985, is subdivided into topically oriented subcommittees. These meet on an as-needed basis to discuss specific issues of importance to the program. During the year, four such subcommittee meetings addressed long-term fates and effects, marine mammals, socioeconomics, and information management.

Endangered Species and Marine Mammals: During FY 1985, the MMS initiated or reinitiated Endangered Species Act (ESA) section 7 formal consultations with the FWS and the National Marine Fisheries Service (NMFS) for two scheduled oil and gas lease sales and exploration offshore Alaska (Sale 89, St. George Basin; and Sale 95, Beaufort Sea). The MMS also requested review of a previous NMFS biological opinion for scheduled Alaska Sale 92 (North Aleutian Basin) because of a change in the size of the lease offering.

Two additional formal consultations were requested on behalf of the MMS and Vandenberg Air Force Base (VAB). These involved oil and gas development and production in the central Santa Maria Basin offshore Point Pedernales, California. The MMS also requested an ESA section 7 official conference with FWS on those plant and fish species on and near VAB that are candidates for potential ESA listing. The conference results, although not binding unless the species are listed, will assist VAB staff in developing measures to mitigate potential adverse effects should these species later be officially listed.

Finally, the MMS formally sought and received concurrence from the FWS and NMFS that there is no need to reinitiate formal consultation for two 1986 oil and gas lease sales and exploration in the Gulf of Mexico (Sale 104 in the central Gulf and Sale 105 in the western Gulf) because previous biological opinions remain valid.

Bureau staff members met both formally and informally to discuss OCS- and endangered species/marine mammal-related topics with representatives of other Federal units, Canadian Government officials, State and local governments, industry, and special interest groups. Noteworthy examples included meetings with:

- ° the Congressional Office of Technology Assessment--on its final report about technology and effects of Arctic oil- and gas-related operations relative to endangered whales;
- ° the Canadian Fisheries Service and Canadian Oil and Gas Lands Administration--about the effects of explosives on the marine environment and, particularly, MMS policy regarding the use of explosives for OCS oil and gas seismic operations;
- ° the Marine Mammal Commission--regarding MMS marine mammal-related research and other activities; and
- ° the NMFS, Alaska State and Borough agencies, and geophysical and oil companies operating in open water offshore Alaska--regarding exploration, operational, and geological and geophysical permitting activities relative to the bowhead whale.

Bureau staff members also served on the Interorganizational Bowhead Whale Research and Technical Coordination Committee and on regional and OCS planning area biological task forces. Other staff members served as coordinators with primary users of MMS-generated research on matters of special interest to the Alaska Eskimo Whaling Commission.

National Marine Sanctuary Program: The MMS provided a special analysis of the oil spillage off the coast of California from the tanker Puerto Rican. This OSRA had been requested by the Sanctuary Programs in NOAA's Division of the Office of Ocean and Coastal Resource Management. NOAA used the information to supplement the assessment of possible future spills from the site of the vessel's sunken stern.

[Interagency] Committee on Ocean Pollution Research Development and Monitoring (COPRDM): The COPRDM mission is to identify cooperative research studies and conduct external evaluation of Federal efforts in this field. The MMS has been an active participant in COPRDM through its Environmental Studies Program. During FY 1985, this committee met twice. A major COPRDM project to which the MMS contributed is developing a research plan to assess the long-term and cumulative effects of OCS oil and gas development activities in the marine environment. Both headquarters and regional MMS staff met frequently and informally to work on it with COPRDM representatives and industry and the research community. As a COPRDM member, the MMS helped prepare annual project and program level summaries as well. These are included in NOAA's annual Federal Plan for Ocean Pollution Research Development and Monitoring.

Subcommittee on Marine Research (SMR): Established in 1976 by the Federal Coordinating Council for Science, Engineering, and Technology, the SMR is a subcommittee of the Committee on Atmosphere and Oceans. Its purpose is to

promote coordination between Federal programs relating to marine research and development. The SMR met formally in March, April, and May of 1985. The MMS staff met both formally and informally with this subcommittee to discuss the specific research areas and funding trends in the MMS Environmental Studies Program.

Beaufort Sea Biological Task Force: Two formal meetings of the Beaufort Sea Biological Task Force were held. Members of this task force include the MMS, NMFS, FWS, EPA, along with representatives from the State of Alaska and the North Slope Borough. Discussions at these meetings included the need for biological surveys in environmentally sensitive areas and studies to determine the environmental effects of construction and abandonment of artificial islands.

Coastal Zone Management: The MMS provided considerable input to the Department of Commerce's study of the Federal consistency process. Input from the FY 1985 draft has been transmitted to the Department of Commerce for necessary changes in the final report. The MMS co-sponsored the Fourth Symposium on Coastal and Ocean Management held in Baltimore, July 30-August 2, 1985. The MMS was represented on the organizational committee, and staff members also presented papers at the Conference.

National Academy of Sciences Study: During FY 1985, the MMS issued a \$237,694 contract to the National Academy of Sciences to evaluate the methods used by industry, academia, and government to estimate undiscovered, economically recoverable oil and gas resources on the Outer Continental Shelf. The National Academy's Board of Minerals and Energy Resources (BMER) will conduct a study of existing resource estimation methods and the adequacy of data available for resource assessment. The BMER is charged with providing an overview of the science, technology, economics, industrial activity, educational programs, and governmental policies related to resources. The BMER will also recommend ways to improve resource techniques. The project was scheduled for completion in FY 1986.

The MMS is responsible for developing estimates of undiscovered, economically recoverable oil and gas resources which are used in preparing 5-year OCS leasing schedules (see Table 5 in subsection G of section I in this report), environmental impact statements for lease sales, and other policy and decision documents.

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Largely in response to biological opinions issued for earlier lease sales in the Bering Sea offshore Alaska in FY 1985, the MMS issued Notice to Lessees (NTL) 85-2. Effective August 1985, it consolidates and refines three previous Bering Sea NTLs. As revised, NTL 85-2 informs lessees and operators of ameliorating measures designed to eliminate or minimize adverse effects to endangered whales that might result from "preliminary activities" in the marine environment. These activities can include postlease geophysical tests or certain exploratory activities. During the fiscal year, the MMS regional staff also worked on a comparable NTL for the South Atlantic (Sale 90) oil and gas lease planning area and on a revised NTL for the Pacific OCS Region planning areas.

Bureau staff members frequently met both formally and informally with FWS and NMFS officials during 1985 to discuss potential effects of OCS-related activities on endangered species and marine mammals. The more noteworthy discussions addressed issues identified during the revision of joint FWS/NMFS regulations that implement section 7 of the ESA. At the end of the fiscal year, the MMS and FWS were at work on an MOU detailing implementation procedures not addressed directly in the revised regulations. The MMS and FWS also met often to resolve technical and legal problems stemming from provisions in the draft biological opinions for the Point Arguello and Point Pedernales oil and gas development and production projects offshore central California. The MMS also reviewed and commented extensively on the revised FWS recovery plan for threatened sea otters in California.

G. Regional Consultations and Related Activities

Sponsorship of Information Transfer Meetings (ITMs) is one of the ways that the MMS disseminates the results of studies it funds through the Environmental Studies Program. The Alaska, Atlantic, and Pacific Regions held their first ITMs, and the Gulf of Mexico held its fifth ITM during FY 1985:

Gulf of Mexico	November 27-29, 1984	New Orleans, Louisiana
Pacific	December 11-13, 1984	Santa Barbara, California
Alaska	May 29-31, 1985	Anchorage, Alaska
Atlantic	September 4-6, 1985	Arlington, Virginia

While the meetings serve as a forum for the exchange of technical information, their primary purpose is twofold: to report on work in progress and to present the results of studies completed by MMS contractors. The ITMs may also include presentations by guest speakers from other Federal Agencies, State agencies, industry, and academia. Proceedings of each meeting are available from the MMS regional offices.

The ITM requirement for each OCS Region stems from a December 1982 resolution of the OCS Advisory Board's Policy Committee. That resolution specifies that the MMS convene at least one technical ITM each year in each Region and that these meetings be included in RTWG schedules. The Scientific Committee of the OCS Advisory Board also endorsed the ITM concept.

Alaska: The Alaska OCS Region Leasing and Environment staff coordinated many of their activities with State and local governments, interagency groups, industry, environmental organizations, and the public. In FY 1985, they included the following:

1985 Public Hearings

Sale 92, North Aleutian Basin

02/19 at Dillingham
02/20 at Naknek
02/21 at Sand Point*
02/26 at Anchorage

Sale 100, Norton Basin

04/22 at Emmonak
04/23 at Nome
05/01 at Anchorage
05/07 at Savoonga
05/08 at Gambell

*Cancelled because of bad weather.

1985 Scoping Meetings

Sale 109, Chukchi Sea

04/11 at Barrow
04/19 at Wainwright
04/19 at Point Lay
04/20 at Point Hope

Sale 97, Beaufort Sea

04/11 at Nuiqsut
04/11 at Barrow
04/18 at Wainwright

There were several communications with the State of Alaska with regard to section 19 activities and the Department's Federal/State consultation policy. Letters were sent when the Calls for Information were published, when Area Identifications were announced, for scenarios, and for scoping meetings and public hearings.

The Alaska OCS Region worked extensively with the State of Alaska and the United Fishermen of Alaska (UFA) to prepare a paper itemizing the available fisheries information for the North Aleutian Basin Planning Area. Another MMS paper evaluating the adequacy of fisheries data was reviewed by both the State and UFA. The Alaska RTWG met twice during FY 1985. Discussion topics included: international and U.S./State of Alaska offshore boundary disagreements; transportation plans for Bering Sea exploration and potential development; geophysical work on the Alaska OCS and its potential effects on other marine industries, whales, and fish; the Alaska OCS Region's FY 1987 Regional Studies Plan; alternate use for or disposal of offshore gravel islands; the CIDS as an innovation in drilling technology for arctic waters; the DOI's proposed draft 5-year OCS leasing program; petroleum development timetables used by the MMS to assess environmental effects of offshore oil and gas leasing; and possible projects in which the RTWG can become involved.

The RTWG members also inspected a CIDS in the Beaufort Sea and attended the Alaska ITM. They were also asked to review and comment on various program documents, including the FY 1987 Regional Studies Plan.

Atlantic: Two RTWG meetings and three ESWS were held in the areas under the jurisdiction of the Atlantic OCS Regional Office, in FY 1985. The first RTWG, for the Mid-Atlantic only, met on December 11, 1984; the second, a plenary session of the North, Mid- and South Atlantic RTWGs, met on September 6, 1985. Approximately 200 MMS staff and guests attended the plenary session which focused on reports of recently completed studies and ongoing projects. The three ESWS were held a week apart--the Mid-Atlantic ESWS on March 5, the North Atlantic ESWS on March 13, and the South Atlantic ESWS on March 19. These work sessions provided RTWG input to the FY 1987 Atlantic Region Studies Plan.

During FY 1985, the Atlantic OCS regional staff implemented its comprehensive regional public affairs plan by using public information and outreach techniques to support the Department's proposed draft 5-Year Oil and Gas Leasing Program. The Regional Director also briefed 28 New Jersey businessmen on the program and its specific impact on the State of New Jersey.

Gulf of Mexico: Three RTWG meetings of the Gulf of Mexico were held during FY 1985. Agenda topics for the November 1984 meeting included the status of regional lease sales, review of the draft Proposed 5-Year OCS Leasing Program,

the FY 1986 Environmental Studies Program, and the 5th Annual Information Transfer Meeting. The agenda for the RTWG meeting of March 1985 included an update on OCS lease sales, the Louisiana Wetlands mapping system, Eastern Gulf of Mexico military stipulations, the artificial reefs program status, and review of the FY 1985 Regional Studies Plan. At the third RTWG meeting in July 1985, topics included reports on current regional activities, the current 5-Year OCS Leasing Program, a beach debris study report, and the Louisiana Coastal Protection and Enhancement Project.

Major coordination efforts were directed in 1985 toward the 1986 and 1987 proposed lease sales in the Gulf of Mexico OCS Region. Public hearings for Sales 104/105 were held on June 18 in Corpus Christi, Texas, and on June 20 in New Orleans, Louisiana. During FY 1985, news releases, Calls for Information, and Area Identification Fact Sheets were also prepared for proposed Sale 110 in 1987 (Western Gulf of Mexico). The FEIS for Sales 94/98/102 was prepared and distributed as well as the DEIS for Sales 104/105. That information was made available to State and local governments, interagency groups, industry, environmental organizations, libraries, and the general public.

Two studies were also published and distributed to the public: The Ecology of the South Florida Coral Reefs: A Community Profile, MMS 84-0038; and The Flower Gardens: A Compendium of Information, MMS 85-0024.

Other coordination efforts on the 1986 and 1987 lease sales included scoping sessions with 35 Federal offices, 17 agencies in Alabama, 14 agencies in Mississippi, 22 agencies in Louisiana, 23 agencies in Florida, and 21 agencies in Texas. The MMS Gulf of Mexico regional office also coordinated activities with 34 academic institutions and more than 100 industrial firms.

Pacific: Several 1984 meetings with the California Air Resources Board (CARB) considered ways to resolve the air quality issues originally raised in the 1981 lawsuit filed by the State of California against the DOI. Those discussions in turn provided information that the DOI incorporated in an ANPR for revisions to the DOI air quality rules for offshore areas adjacent to California. The Notice was published in the Federal Register on January 7, 1985.

The MMS worked jointly with CARB on air quality modeling guidelines for implementation of Lease Sale 73 air quality stipulations. Local regulatory agencies and industry were also consulted. Extensive consultations were also held with the source groups in order to assure air quality modeling capable of assessing potential impacts from exploratory operations on specific Lease Sale 73 tracts. A plan was also developed for generic photochemical modeling analysis of Lease Sale 73 exploratory activities.

In December 1984, 190 scientists from Federal, State, and local governments, and the private sector attended an ITM convened by the Environmental Studies Section of the MMS. Topics of the 26 guest speakers included the physical, biological, and human environments of the Pacific OCS.

The MMS also participated during FY 1985 in two large cooperative studies aimed at assessing potential impacts of OCS oil and gas activities on air quality. The first, the Joint Interagency Modeling Study (JIMS), was done cooperatively by the MMS, EPA, CARB, and the Air Pollution Control Districts (APCDs) of

Santa Barbara and Ventura counties. For JIMS, the cooperators ran a regional photochemical model that was designed to predict ozone concentrations for both present and future oil and gas activities in the Santa Barbara Channel and the southern Santa Maria Basin. The results were scheduled for publication in FY 1986. The second study, the South Central Coast Cooperative Aerometric Monitoring Program (SCCCAMP), is being conducted jointly by EPA, MMS, CARB, San Luis Obispo, Santa Barbara, and Ventura county APCD's, and the Western Oil and Gas Association. A comprehensive program begun in September 1985, it will gather meteorological and air quality data in order to evaluate the performance of photochemical models and to improve photochemical model capabilities. The study area encompasses the Santa Barbara Channel, the southern portion of the Santa Maria Basin, Santa Barbara and Ventura Counties, and the western portion of Los Angeles County. All data archiving and analysis is scheduled for completion within a year of the end of the field program. The SCCAMP data will then be used to evaluate photochemical models.

Representatives from the California Department of Fish and Game and the FWS serve on the Quality Control Boards (QCB) for three MMS-contracted studies on sea otters. One of the project managers gave a program report on the oil-spill mitigation efforts under study. The QCB meets annually to provide suggestions for improving these studies.

The Pacific OCS Region continued to serve on the Fish Dispersal Committee (FDC) during FY 1985. Other members represent the fishing fleets, the International Association of Geophysical Contractors, NMFS, California Department of Fish and Game, and the State Lands Commission. The FDC was formed because Pacific coast commercial fishermen are concerned that exploratory seismic activities on the OCS may cause fish dispersal and thus adversely affect normal catches. The data and conclusions from a 1984 study were submitted by Greenridge Science, Inc., to the steering committee for final review in May 1985. Based upon that pilot study, the MMS contracted with Battelle Memorial Institute to further study if and how geophysical survey sound work disperses or diminishes commercial fishing. The MMS also serves on the FDC Egg and Larvae Committee since Pacific fishermen are also concerned with the effects that geophysical survey sound sources may have on fish eggs and larvae.

The committee convened a panel of distinguished experts which began considering practical ways to evaluate whether adverse effects on eggs and larvae will directly impact adult fish populations. The California Coastal Commission joined the committee in August 1985.

In March 1985, seven Pacific OCS regional staff and one from MMS headquarters staff served as panelists in the 3-day California Offshore Petroleum Conference held in Long Beach. Organized by the Statewide Energy Consortium of California State University Foundation and the American Society for Environmental Education, the conference was a forum for government, industry, educators, scientists, and the public who are interested in learning from one another what considerations interact on the political, economic, and environmental decisions on offshore petroleum exploration and development in California and the Nation.

In April 1985, the Pacific OCS Region Field Operations staff explained MMS inspection procedures and regulations at a workshop in Ventura. Personnel from State, county, and local governments, and the oil industry attended. The MMS

also met that same month with the staff from Vandenberg Air Force Base, the USCG, and the Western Oil and Gas Association to discuss safety and security of platforms and vessels during space shuttle launch evacuations.

The RTWG provided input for the FY 1987 Regional Studies Plan and the States of Washington and Oregon indicated their support for a workshop/conference to identify study needs for the proposed Washington-Oregon lease offering in 1991. The staff also presented a review of the Physical Oceanographic element of the Region's Environmental Studies Program at the meeting of the OCS Advisory Board in April.

In April 1985, MMS worked jointly with the County of San Luis Obispo to prepare an EIS/EIR for the Cities Service Plan of Development for Lease OCS-P 0409 or the San Miguel Development and Area Study. Other participating agencies included State Lands Commission, California Coastal Commission, Santa Barbara County, and Governor's Office of Offshore Development. Public scoping meetings were held in June. In July and September, the MMS met with the California Department of Fish and Game, the FWS, Friends of the Sea Otter, and Joint Review Panel to discuss the sea otter impact analysis for the San Miguel EIS/EIR.

Numerous air quality meetings have also been held with the California Air Resources Board, local Air Pollution Control Districts, and the MMS to discuss the air quality impact assessment for the EIS/EIR. The draft EIS/EIR was scheduled for release to the public in December 1985, with public hearings to be held in January 1986.

The MMS met with the California Division of Oil and Gas in May 1985 to discuss the status of State and Federal offshore operations and regulations regarding inspection procedures. In June, the MMS participated in a meeting at the California State Lands Commission Office in Sacramento in an effort to reach agreement on the use of common maps and coordinates for the Three Mile Geographical Line offshore California. Representatives from the State Lands Commission and the Pacific OCS Regional Office, the California Attorney General's Office, the Department of Justice, the Solicitor's Office of the DOI, and the MMS OCS Survey Group joined in the discussions. The State Lands Commission and the OCS Survey Group will continue working on the problem in FY 1986.

The MMS coordinated its preparation with Santa Barbara County of an EIS/EIR for the Union and Exxon Plans of Development for leases OCS-P 0440 and 0441, respectively, as well as on a central Santa Maria Basin Area study. Other participating agencies included the State Lands Commission, California Coastal Commission, and the Governor's Office of Environmental Affairs. During the EIS/EIR preparation, MMS held numerous meetings with CARB, the local Air Pollution Control Districts, and the EPA on the air quality impact analysis. Also, as part of this project, the MMS coordinated Section 7 Endangered Species consultations with the FWS and NMFS, the VAB, the California Department of Fish and Game, the California Coastal Commission, Santa Barbara County, and the Army Corps of Engineers. The EIS/EIR was successfully completed in June 1985.

During August 1985, the Secretary and an Interior panel held "town meetings" aimed at soliciting community views on offshore oil and gas exploration along the California coast. Several hundred people attended the meetings in Eureka, Santa Cruz, San Rafael, San Luis Obispo, Bakersfield, Santa Barbara, Ventura,

Los Angeles, Long Beach, Oceanside, and Newport Beach to express their concerns. Panelists included members of the Secretary's staff, the Director of the MMS, the Regional Director of the Pacific OCS Region, and members of his staff. The Pacific OCS Region also provided logistical support at all meetings.

H. OCS Oil and Gas Information Program

The OCS Oil and Gas Information Program (OCSIP) was established in 1978 as mandated in section 26 of the OCSLA Amendments, which requires the production of regional summary reports and indexes for planning purposes. All OCSIP documents are available through the MMS Office of Offshore Information Services.

OCS Summary Reports for each OCS planning area provide State, regional, and local planners with updated information for use in anticipating and planning for onshore impacts of offshore oil and gas activities. Industry representatives, private citizens, and Federal officials also use these reports extensively. They summarize resource and reserve estimates; the magnitude and timing of exploration, development, and production activities; transportation plans; and the nature and location of onshore facilities. Relevant information is also given on Federal, State, and local studies and issues. Each summary report is a synthesis of information gained during field interviews with Federal, State, and local representatives, and the private and public sectors. That is coupled with analyses of pertinent Government and industry studies and publications.

In FY 1985, four OCSIP Publications were revised:

- ° Atlantic Summary Report (December 1984)
- ° Arctic Summary Report (January 1985)
- ° Pacific Summary Report (April 1985)
- ° Gulf of Mexico Summary Report (June 1985)

OCS Indexes list all relevant, actual or proposed programs, plans, and reports used by the Federal Government in the presale and postsale OCS leasing process. They also describe and explain the significant steps in the OCS oil and gas leasing process. These Indexes contain the only available consolidated directory all of the Federal and State agencies involved in OCS leasing. During FY 1985, two were updated:

- ° Alaska Index (May 1983-January 1985)
- ° Atlantic Index (June 1984-January 1985)

I. OCS Referral Center

The OCS Referral Center was established in 1978 in response to an OCS Advisory Board request for a single information contact within the Department for OCS activities. Center staff answer questions from the public, Federal Agencies, coastal States, industry, private organizations, and the Congress. Inquiries are either answered directly at the Center or are referred to an office or individual with expertise on a given subject. The Center is operated by the Office of Offshore Information Services.

J. Development of a New 5-Year OCS Oil and Gas Leasing Program

The requirement to develop a 5-year program and the analytic and consultative process for doing so are prescribed in section 18 of the OCSLA, as amended (43 USC 1344). The Department began development of the new program by announcing it in letters to the Governors of all the coastal States and to interested Federal Agencies on July 5, 1984. That initiation of development was also published in the Federal Register (July 11, 1984; 49 FR 28332). More than 160 responses were received.

Subsequently, the Secretary announced selection of a draft proposed program in a letter to the Governors of the coastal States and the interested Federal Agencies (March 19, 1985) and in a Federal Register Notice (March 22, 1985; 50 FR 11585). The MMS also forwarded to those Governors and agencies, as well as to numerous other interested parties, the complete documentation of the analysis, the decision options, and the selection decision that helped shape the draft. More than 330 comments on the draft were received. Many were used in the compilation of the Secretarial Issue Document that was then written as the next stage in drafting the proposed program.

As now developed, the basic features of the draft proposed program for late 1986 through mid-1991 are as follows:

1. Planning Area Boundaries for the Draft Proposed Program:

The draft proposed program selection revises the July 1984 description by establishing outer boundaries for planning areas. The MMS would reconfigure the OCS from 24 to 26 planning areas by dividing the South Atlantic into two areas (South Atlantic and the Straits of Florida) and by redesignating the two offshore California areas as three (Northern, Central, Southern). Both areal changes would allow for more concentrated section 18 reviews of those areas as well as detailed responses to public comments.

2. The Leasing Schedule for the Draft Proposed Program:

For the January 1987 through December 1991 period, the draft proposed program provides for 33 standard sales, 5 frontier exploration sales, and 5 supplemental sales. This contrasts with the current program (as updated and approved in July 1982), which provides for 40 standard sales and 1 reoffering sale. The new draft schedule proposes the continuation of annual sales in the two highest-value, highest-interest areas: the Central and the Western Gulf of Mexico. The draft proposed program also schedules triennial sales in 15 other areas. It would thus slow the pace of leasing in contrast with the biennial sales of the current 5-year program.

The first OCS sale since 1964 is proposed for 1991 for the area offshore Washington and Oregon, given the value of that area's resources and industry interest. The schedule also proposes the first sale in Hope Basin, offshore Alaska, also for 1991. (The 1980 program had originally proposed a Hope Basin sale for May 1985.) The Washington/Oregon sale is proposed for late in the 5-year period to allow time for the necessary environmental studies that would have to be performed.

a. The Base Schedule: The base schedule proposes 33 standard sales in 17 planning areas. Eleven of those sales would be carried over from the current to the new program.

b. Frontier Exploration Sales Offshore Alaska: Five frontier exploration sales are proposed for offshore Alaska to increase the flexibility of the schedule to respond to possible future changes in prices and other economic conditions or improved geologic and geophysical data. One sale each is proposed for the Gulf of Alaska, Cook Inlet, Shumagin, Hope Basin, and Kodiak.

The DOI proposes also to schedule an additional presale step for such frontier exploration sales. This longer scheduling time would make the program more flexible. A Request for Interest would be issued 4 months before the Call for Information and Nominations. The resulting responses would then be used to help determine whether the approximately 2-year sale process should go forward. Under then prevailing conditions, the Department might find that lease sales were not viable in those areas. Or, economic or political conditions could so change that having the option to initiate and hold these sales could be in the Nation's interest. The annual review of the program, as prescribed in section 18(e) of the OCSLAA, would also be used to determine whether to proceed with these sales.

c. Supplemental Sales: The schedule as proposed also includes an annual sale for a small number of selected blocks in areas other than the Central and the Western Gulf of Mexico. Those would be drainage and development blocks as well as blocks on which bids were rejected in the preceding calendar year. Such supplemental sales would provide for: (1) the expeditious offering of blocks in which serious industry interest can reasonably be anticipated; (2) orderly development of OCS resources, increasing the potential for actual development and reducing the time necessary to bring new fields into production; and (3) minimizing the costs of delay. These blocks would only be offered after compliance with the requirements of the National Environmental Policy Act, the OCS Lands Act, and other applicable statutes.

The DOI would release the environmental assessment documentation for each of these sales at approximately the same time as the Proposed Notice of Sale. Then, if an EIS were required for one of these sales, the DOI would issue revised presale milestones.

d. Areas Not in the Draft Proposed Program: The schedule proposes no sales in St. Matthew-Hall, Aleutian Arc, Aleutian Basin, and Bowers Basin so as to concentrate management resources on other areas with higher resource potential and industry interest. No sale schedule is proposed for the Straits of Florida either since this area has not yet been analyzed as a separate planning area.

e. Acceleration (Flexibility) Provision: To comply fully with the statutory requirement to meet national energy needs over the 5 years of the program, the schedule should have the flexibility to respond to changing conditions. Thus, the Draft Proposed Program includes a provision to accelerate sales in eight areas of higher value and/or higher interest. But this acceleration would not increase the total number of sales in any planning area in the approved program. The areas where such acceleration would be considered include: Southern California, Eastern Gulf of Mexico, Central California, Northern California,

Navarin Basin, Beaufort Sea, North Aleutian Basin, and St. George Basin. Specific guidelines for the implementation of this acceleration provision would be developed for the Proposed Program.

3. Size of Lease Sales in the Draft Proposed Program:

It is proposed that the size of lease sales be determined by a presale process that would result in focusing on promising acreage. Promising acreage is what is reasonably determined as likely to lead to exploration and/or development of oil and gas resources. That determination would be made after a consultative process that would provide for the early resolution of conflicts based on information and nominations from affected Federal Agencies, State and local governments, the public, and potential bidders, as well as from the MMS analysis. Where strong environmental or other conflicts exist, the focus on the promising acreage concept would provide that these issues be addressed early so that, depending on the merits of each case, deferral of areas could be considered.

The offering of promising acreage would realize DOI's desire to make available for lease those areas of greatest hydrocarbon potential identified by industry and MMS, while remaining cognizant of the particular circumstances affecting each sale. The OCS areas and the adjacent onshore regions vary significantly in terms of exploration and development history, onshore support capability, and possible multi-use conflicts. Regional differences would be taken into account on a case-by-case, sale-by-sale basis in preparing for lease activity. The emphasis would be on consultation, and wherever possible, on consensus.

4. Assurance of Receipt of Fair Market Value in the Draft Proposed Program

Section 18(a)(4) of the OCSLA, as amended, provides that leasing activities are to be conducted so as to assure receipt of fair market value for the lands leased and the rights conveyed by the Federal Government. The policy option selected for the Draft Proposed Program maintains current procedures for assuring the receipt of fair market value. The selected option also provides for a review of the question of whether the minimum bid level should be changed either in general or on a variable basis for different planning areas.

IV. RECEIPTS, OBLIGATIONS, AND EXPENDITURES, FISCAL YEAR 1985

A. Offshore Receipts

Bonuses and Rents (Account 141820)*	\$ 1,952,941,254
Royalties (Account 142020)**	<u>3,588,937,243</u>
TOTAL RECEIPTS	\$ 5,541,878,497

Escrow (Accounts 14X6704 and 14X6707)

Bonuses	\$ 197,701,430
Rents	4,572,896
Interest	562,456,563
Royalty	<u>92,441,881</u>
TOTAL 6704 & 6707 ESCROW	\$ 857,172,770
TOTAL RECEIPTS AND ESCROW	\$ 6,399,051,267

B. Offshore Energy Program Obligations (estimated)

Salaries and Benefits	\$ 44,941,354
Travel and Per Diem	1,966,822
Contractual Services	47,325,613
Other	<u>4,573,641</u>
TOTAL PROGRAM OBLIGATIONS	\$ 98,807,430

C. Escrow Accounts

1. Section 8(g) Escrow Account

As of September 30, 1985

Bonuses	\$ 3,826,191,951
Rents	13,627,917
Interest Realized	2,125,060,529
Royalty	<u>233,678,721</u>
TOTAL SECTION 8(g) ESCROW	\$ 6,198,559,118

(Interest Accrued (estimated)
on Outstanding Investments \$117,221,057)

2. Beaufort Sea Section 7 Account

As of September 30, 1985

Bonuses	\$ 592,293,756
Rents	1,590,009
Interest Realized	<u>431,861,984</u>
TOTAL SECTION 7 ESCROW	\$ 1,025,745,749

(Interest Accrued (estimated)
on Outstanding Investments \$19,294,142)

3. All OCS Escrow Accounts

As of September 30, 1985

Bonuses	\$ 4,418,485,707
Rents	15,217,926
Interest Realized	2,556,922,513
Royalties	<u>233,678,721</u>
TOTAL ESCROW ACCOUNTS	\$ 7,224,304,867

*Includes fund transfers: \$766,715,507 to the Land and Water Conservation Fund; \$150,000,000 to the Historic Preservation Fund; and \$41,832,493 released from Account 141820 to Escrow.

**Royalties (Account 142020) are net after payment of Windfall Profit Tax.

NOTE: Interest Realized is the difference between the cost of purchased securities and cash received (face value) upon their redemption.

Interest Accrued is an estimated amount computed under the assumption that outstanding securities will be redeemed at maturity. Premature redemption could result in a gain or loss, depending on the market value of the securities at that time; however, no premature redemptions are anticipated.

V. RECOMMENDATIONS TO THE CONGRESS

Section 15(1)(E) of the OCS Lands Act, as amended (43 U.S.C. 1343(1)(e)), requires that the Secretary of the Department of the Interior submit to the President of the Senate and the Speaker of the House of Representatives as part of the Annual Report on the OCS Oil and Gas Leasing and Production Program:

" . . . recommendations to the Congress (i) for improvements in management, safety, and amount of production from leasing and operations in the OCS, and (ii) for resolution of jurisdictional conflicts or ambiguities."

The DOI has no recommendations at this time on these matters.

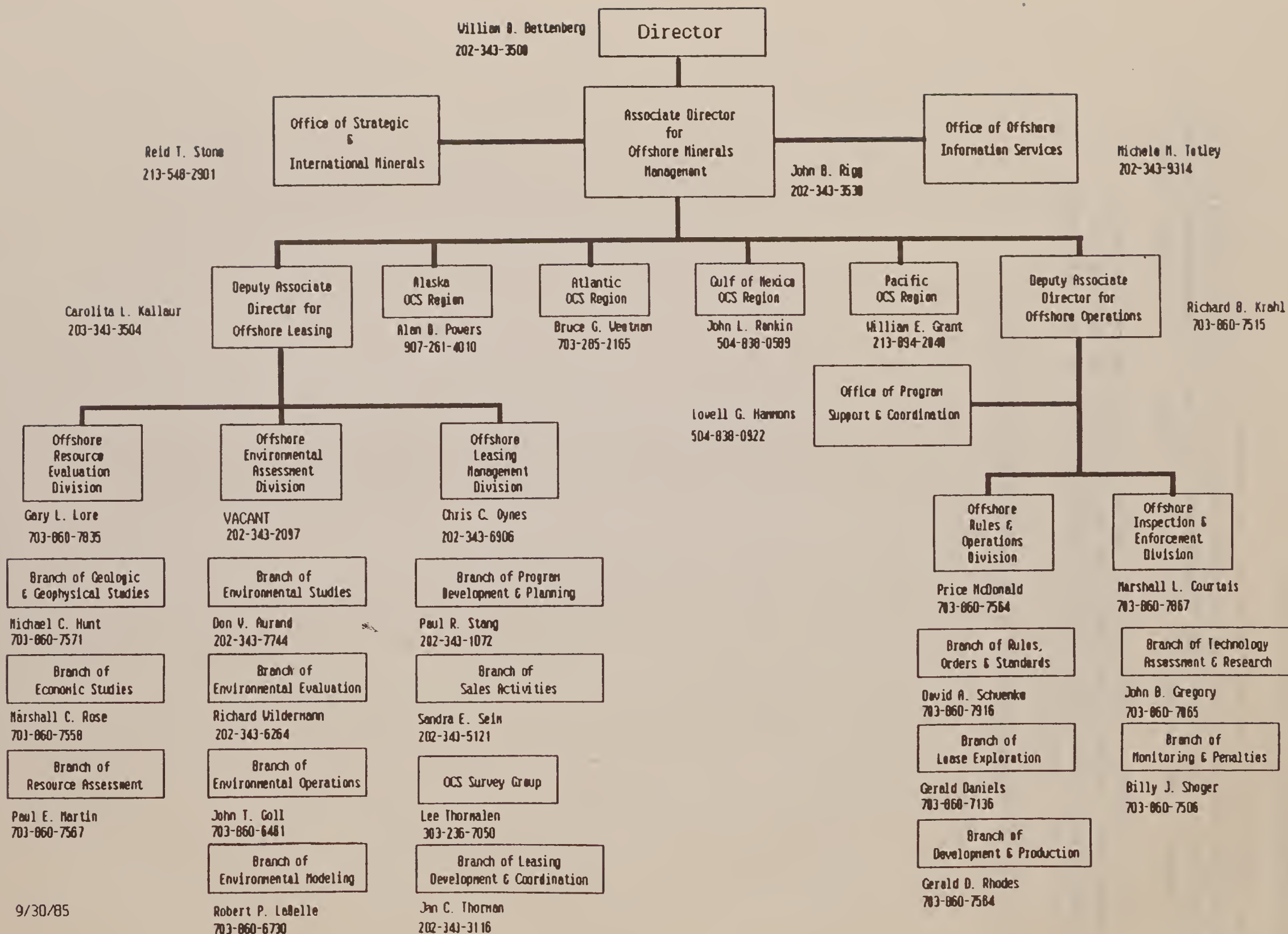


Figure 4. ORGANIZATIONAL CHART OF MINERALS MANAGEMENT SERVICE, OFFSHORE.

APPENDIX:

SUMMARY TABLES OF SHUT-IN WELL COMPLETIONS

FOR THE GULF OF MEXICO

AND PACIFIC OCS REGIONS,

FY 1985

Appendix Table 1. SUMMARY OF SHUT-IN WELL COMPLETIONS ON THE GULF OF MEXICO OCS, FY 1985

Reasons Not Producing	Actions Needed to Restore Production					N/A Seen	FY 1985 Totals
	Minor Workover	Major Workover	Open S. Valve	Safety, etc.	Recom- pletions		
<u>RESERVOIR PROBLEMS:</u>							
Gas-cap completion	5	7	59	1	0	7	79
Depleted and/or pending P&A	0	0	0	0	81	1,171	1,252
High gas-oil ratio	11	16	63	3	4	15	112
Watered-out	84	61	16	1	42	589	793
Reservoir or well study	30	22	22	0	0	0	74
Testing needed	0	0	9	0	0	0	9
Waiting reservoir response	13	5	15	0	0	0	33
Low reservoir pressure	159	61	39	24	18	242	543
High water-oil (gas) ratio	37	26	0	0	15	106	184
Subtotals:	339	198	223	29	160	2,130	3,079
<u>WELLBORE PROBLEMS:</u>							
Hole in tubing or casing	43	117	0	0	9	126	295
Sanded-up	240	288	0	6	36	619	1,189
Other zone communication	19	40	4	0	1	66	130
Loaded-up with water	234	187	55	16	41	648	1,181
Collapsed tubing liner	5	23	0	0	1	38	67
Subsurface safety valve	31	19	0	4	0	14	68
Junked equipment in hole	34	69	0	0	8	247	358
Paraffin/corrosion /scale	7	0	0	0	0	10	17
Tubing hanger leak	3	1	0	0	0	0	4
Gas-lift/pump problem	19	3	0	6	0	15	43
Pumping rods parted	0	0	0	0	0	1	1
Subtotals:	635	747	59	32	96	1,784	3,353
<u>SURFACE PROBLEMS:</u>							
Compressor	0	0	10	29	1	10	50
Production equipment	0	0	11	27	0	16	54
Electrical	0	0	0	0	0	0	0
Surface safety valve	0	0	0	3	0	3	6
Safety equipment	0	0	0	0	0	2	2
Wellhead (Christmas tree)	0	0	0	2	0	1	3
Subtotals:	0	0	21	61	1	32	115

NOTES: "Open S. Valve" indicates that restoration can be made by merely opening the surface valve of the completion;
 "Safety, etc." indicates that either remedial safety, maintenance, or construction work and/or equipment is needed.

"N/A Seen" means that no future action is foreseen or expected, except eventual plugging and abandonment (P & A).

Appendix Table 1 (continued). SUMMARY OF SHUT-IN WELL COMPLETIONS ON THE GULF OF MEXICO OCS, FY 1985

Reasons Not Producing	Actions Needed to Restore Production					N/A Seen	FY 1985 Totals
	Minor Workover	Major Workover	Open S. Valve	Safety, etc.	Recom- pletions		
<u>PIPELINE/FLOWLINE/HEADER:</u>							
Pipeline or flowline leaks	0	0	1	3	1	0	5
P/L, flowline or head tie-ins	0	0	20	29	1	2	52
No pipeline--no market	0	0	123	123	0	6	252
Pipeline or flowline maintenance	0	0	3	6	0	0	9
Pipeline curtailment	0	0	309	54	3	11	377
Check valve problems	0	0	2	0	0	0	2
Low pressure well	0	0	9	13	0	4	26
Helium & Carbon dioxide wells	0	0	0	0	0	0	0
Subtotals:	0	0	467	228	5	23	723
<u>PLATFORM PROBLEMS:</u>							
Operations on platform	0	0	39	31	2	0	72
Damage to platform	0	0	4	10	0	1	15
Platform-related construction	0	0	12	15	0	0	27
Subtotals:	0	0	55	56	2	1	114
<u>WEATHER CONDITIONS:</u>							
Hurricane or storm damage	0	0	0	0	0	0	0
Freezing temperatures	0	0	0	0	0	0	0
<u>REGULATORY MATTERS:</u>							
Eliminate flare gas	0	0	5	2	0	0	7
Inspection enforcement action	0	0	0	2	0	1	3
Balancing MER overproduction	0	0	3	0	0	0	3
Awaiting FERC approvals	0	0	1	0	0	0	1
Awaiting BLM/MMS approval	0	0	0	0	0	0	0
Subtotals:	0	0	9	4	0	1	14
<u>OTHER PROBLEMS:</u>							
Miscellany	2	0	0	1	0	0	3
Subtotals:	2	0	0	1	0	0	3
GOM Shut-in Totals:	976	945	834	411	264	3,971	7,401

Appendix Table 2. SUMMARY OF SHUT-IN WELL COMPLETIONS ON THE PACIFIC OCS, FY 1985

Reasons Not Producing	Actions Needed to Restore Production					N/A Seen	FY 1985 Totals
	Minor Workover	Major Workover	Open S. Valve	Safety, etc.	Recom- pletions		
<u>RESERVOIR PROBLEMS:</u>							
Gas-cap completion	0	0	0	0	0	0	0
High gas-oil ratio	4	1	0	0	0	1	6
High water-oil ratio	0	10	0	0	9	7	26
Reservoir or well study	6	11	0	0	0	0	17
Testing needed	0	0	0	0	0	0	0
Low reservoir pressure	1	1	1	0	0	1	4
Subtotals:	11	23	1	0	9	9	53
<u>WELLBORE PROBLEMS:</u>							
Hole in tubing or casing	0	4	0	0	0	0	4
Sanded-up	3	6	0	0	3	0	12
Commingling	0	1	0	0	0	0	1
Loaded-up with water	0	1	0	0	0	0	1
Collapsed tubing liner	0	0	0	0	0	1	1
Subsurface safety valve	1	0	0	0	0	0	1
Junked equipment in hole	3	0	0	0	0	0	3
Paraffin problems	0	0	0	0	0	0	0
Tubing hanger leak	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Subtotals:	7	12	0	0	3	1	23
<u>SURFACE PROBLEMS:</u>							
Compressor problems	0	0	0	0	0	0	0
Production equipment problems	0	0	0	1	0	0	1
Safety valve problems	0	0	0	0	0	1	1
Safety equipment problems	0	0	0	0	0	0	0
Subtotals:	0	0	0	1	0	1	2

NOTES: "Open S. Valve" indicates that restoration can be made by merely opening the surface valve of the completion; "Safety, etc." indicates that either remedial safety, maintenance, or construction work and/or equipment is needed.

"N/A Seen" means that no future action is foreseen or expected, except eventual plugging and abandonment (P & A).

Appendix Table 2 (continued). SUMMARY OF SHUT-IN WELL COMPLETIONS ON THE PACIFIC OCS, FY 1985

Reasons Not Producing	Actions Needed to Restore Production					N/A Seen	FY 1985 Totals
	Minor Workover	Major Workover	Open S. Valve	Safety, etc.	Recom- pletions		
<u>PIPELINE/FLOWLINE/HEADER:</u>							
P/L, flowline leaks	0	0	0	0	0	0	0
P/L, flowline head tie-in	0	0	0	0	0	0	0
No pipeline, no market	0	0	0	0	0	0	0
P/L or flowline maintenance	0	0	0	0	0	0	0
Pipeline curtailment	0	0	0	0	0	0	0
Check valve problems	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotals:	0	0	0	0	0	0	0
<u>PLATFORM PROBLEMS:</u>							
Drilling-workover activity	0	0	0	0	0	0	0
Damage to platform	0	0	0	0	0	0	0
Related construction	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotals:	0	0	0	0	0	0	0
<u>REGULATORY MATTERS:</u>							
Eliminate flare gas	0	0	0	0	0	0	0
Inspection/enforcement action	0	0	0	0	0	0	0
Awaiting FERC certificate	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotals:	0	0	0	0	0	0	0
Pacific Shut-in Totals:	<u>18</u>	<u>35</u>	<u>1</u>	<u>1</u>	<u>12</u>	<u>11</u>	<u>78</u>

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